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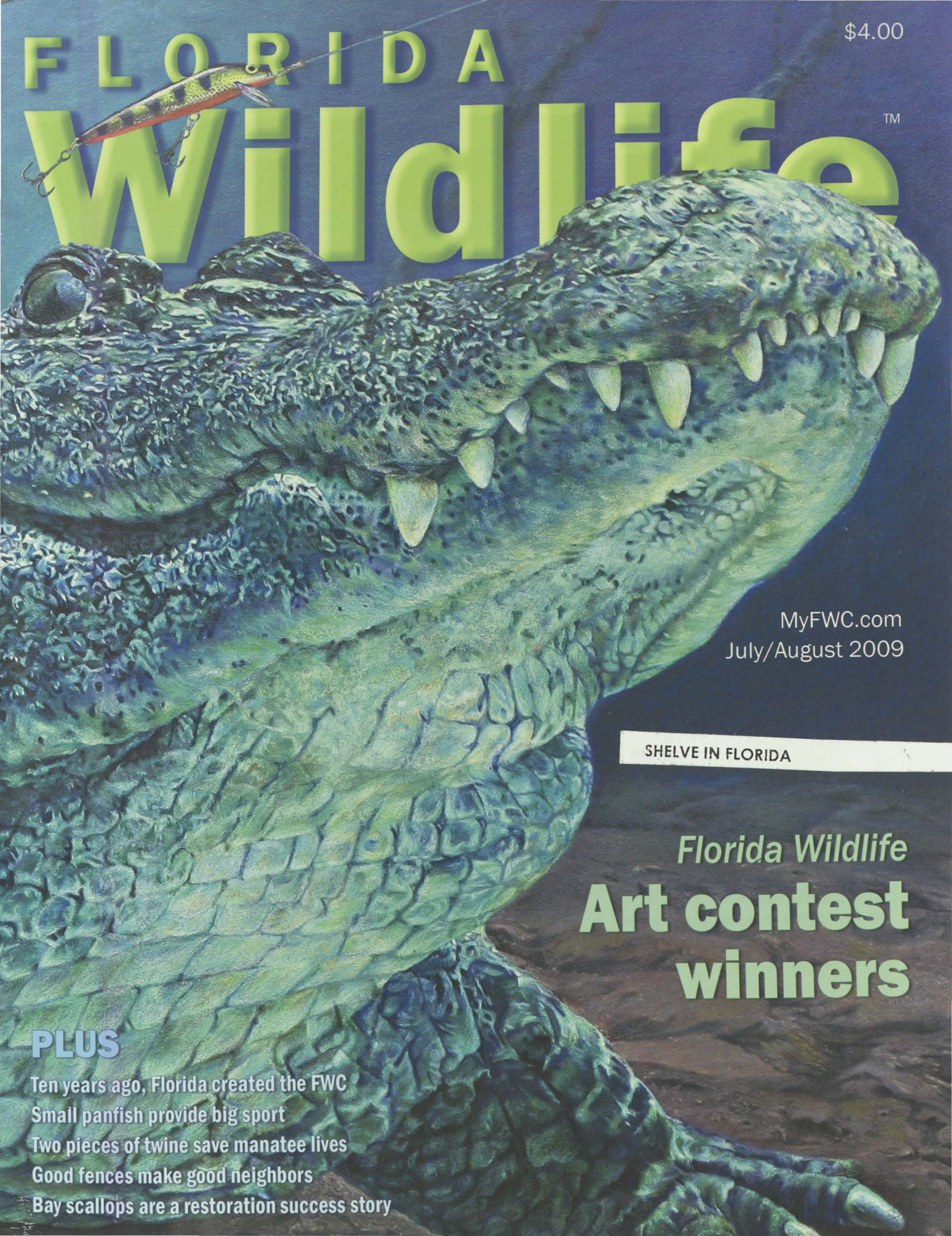

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Florida Wildlife Art contest winners

PLUS

- Ten years ago, Florida created the FWC
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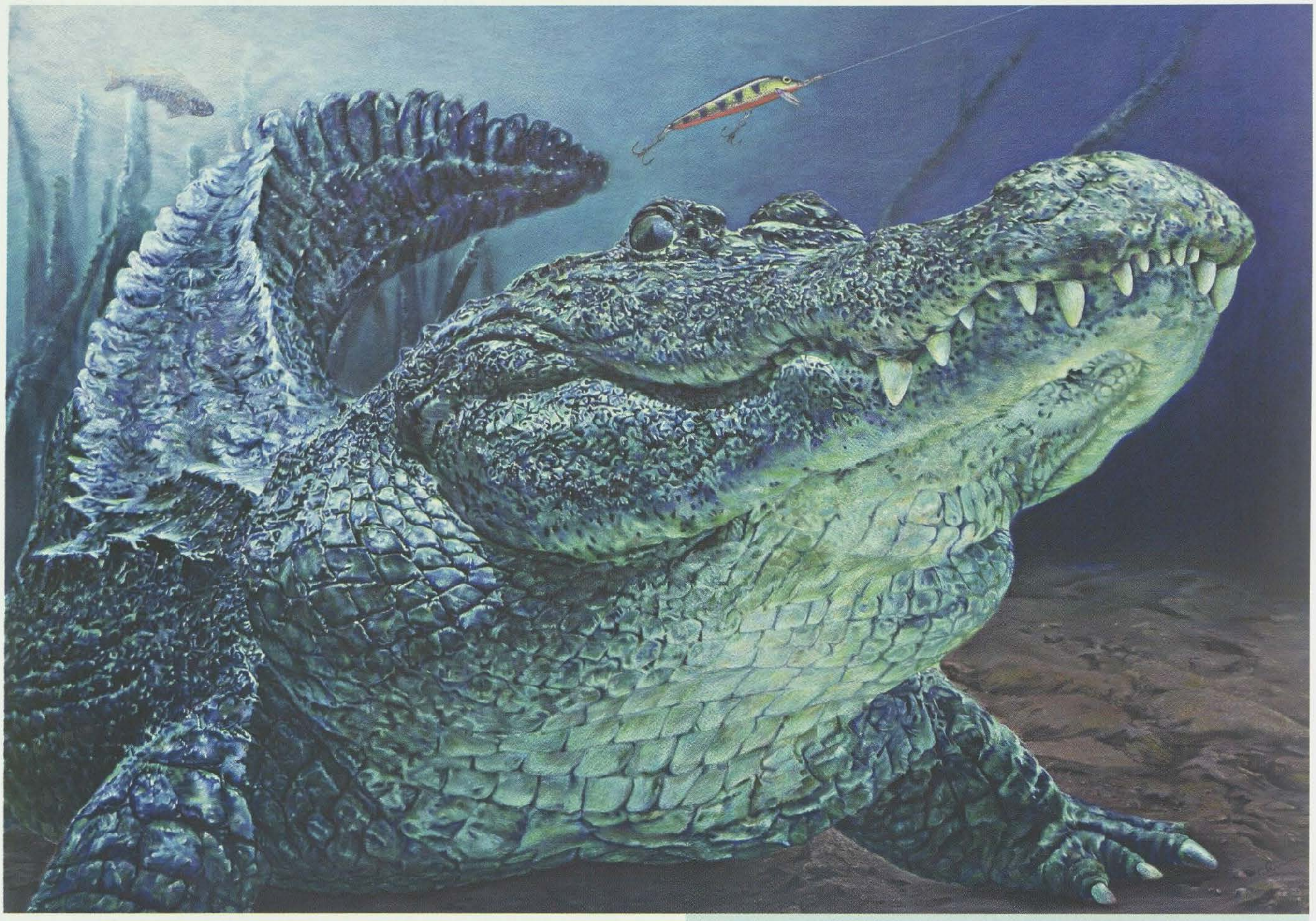
- Bay scallops are a restoration success story

2009 Art Contest Winning Print



Here is your opportunity to own a copy of this year's *Florida Wildlife* art contest winning artwork. "Breaking Up The Monotony" by wildlife artist Leslie Evans is being reproduced as a limited-edition print, signed and numbered by the artist. Proceeds go to the Wildlife Foundation of Florida, a not-for-profit, non-political organization dedicated to preserving Florida's fish and wildlife for future generations.

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2010 Art Contest

Florida Wildlife is pleased to announce its 2010 art contest. Winning entries will be published in the July/August 2010 issue and posted on the magazine's Web site. Signed and numbered limited-edition prints of the first place winning artwork will be available to *Florida Wildlife* readers. An entry form and a complete list of rules can be found on the magazine's Web site: www.floridawildlifemagazine.com.

- Contest is open to all artists at least 18 years old, regardless of residency.
- Participants may submit up to three entries.
- All entries must portray fish or wildlife native to Florida.
- Entries must be unframed artwork submitted as a 35mm slide, 4" x 5" transparency or high-resolution digital scan on CD (300 dpi and no smaller than 8.5" x 11")
- Entries must be labeled with artist's name.
- Entries must include a completed and signed entry form, available from www.floridawildlifemagazine.com.
- E-mail entries will not be accepted.
- Entries must be received by Monday, March 1, 2010. They will be returned beginning in July. Notification of contest results will be mailed to all participants.

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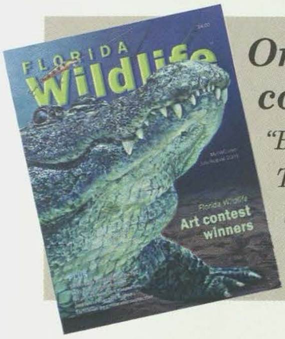
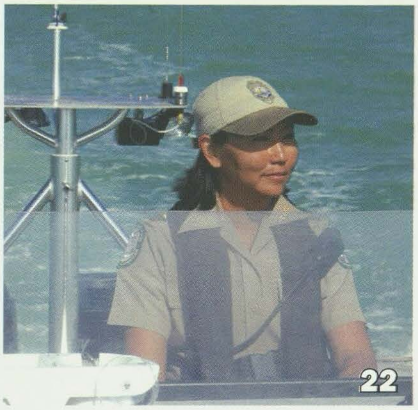


On the cover:
"Breaking Up The Monotony" by Leslie Evans

JANESSA COBB



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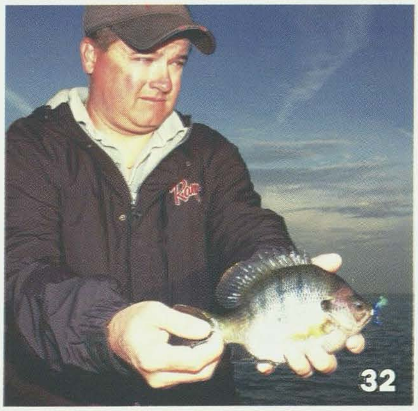

JOHN FELSHER

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Volume 62 FLORIDA Wildlife Issue 4

CELEBRATING OUR HERITAGE OF HUNTING, FISHING AND NATURE-BASED RECREATION

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Our mission: Managing fish and wildlife resources for their long-term well-being and the benefit of people.

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We take pride in conserving a rich heritage for future generations

Kenneth D. Haddad

Executive Director
Florida Fish
and Wildlife
Conservation
Commission

July 1, 1999, the Florida Fish and Wildlife Conservation Commission came into being, and more than a century of assorted state and local agencies' efforts to conserve fish and wildlife gave way to a more modern kind of agency.

Florida needed an agency like the FWC to take a much broader approach to managing the state's resources by merging all the best available science and technology with public input as part of the decision-making process. What happens in the ocean affects what happens inland. What happens in Florida's waters affects people in other states. What takes place in other countries affects Florida's fish and wildlife. All of those considerations, and more, steered the structural design of the FWC.

The new agency absorbed the Game and Fresh Water Fish Commission, the Marine Fisheries Commission and parts of the Department of Environmental Protection, including the former Marine Patrol and what was to become the Florida Fish and Wildlife Research Institute. Pooling the resources and expertise of all those entities in a single agency yielded greater wisdom in dealing with the complex interrelationships among species and habitats and Floridians' access to them.

ANDREA BOLIEK

FWC biologist Walt McCown performs a check-up on a bear cub born in the Ocala National Forest.

During the past 10 years, the FWC has restructured, re-evaluated, retooled and redirected itself to be more in line with the ever-changing state of conservation and the expectations of the people of Florida. We've placed new emphasis on working with stakeholders and reaching out to all Floridians so they will share their opinions with us as we manage the magnificent living resources that belong to all of us and that we entrust to the FWC's care.

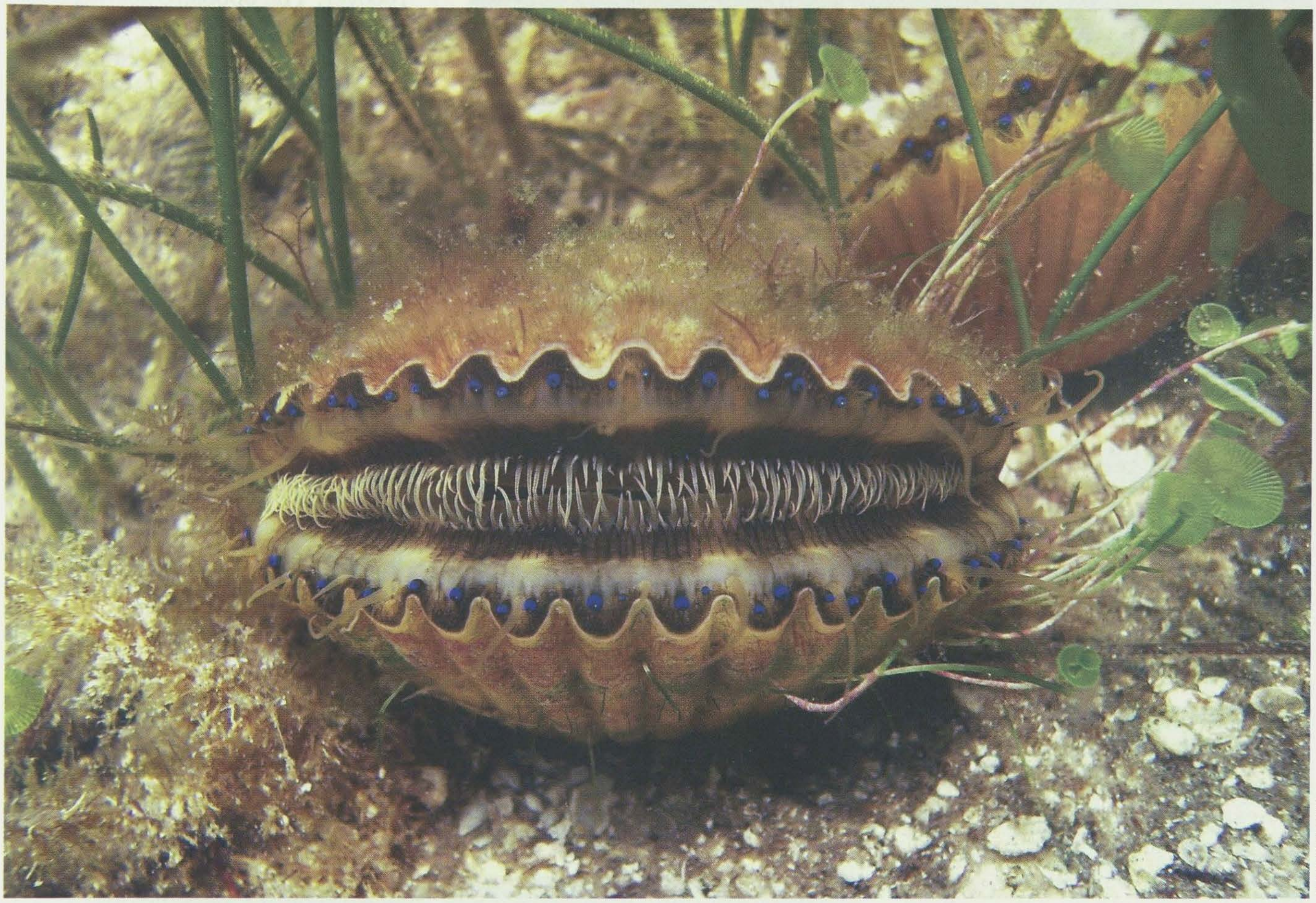
The agency has new procedures that ensure that when you call our offices, you will talk to a real human being who will be courteous, professional and as helpful as possible. That's as important to us as it is to you.

We live in an era in which tradition no longer is sufficient reason for us to continue doing things the way we've always done them. We recognize our obligation to rely on science and technology to keep the FWC at the forefront of natural resource conservation – for other states' conservation agencies to regard us as the model. This is a time for innovation and creative thinking. We must be excellent at what we do, yet we must stay lean. We must feel the drive to be the best there is, and I promise you we will.

It's fitting and proper that we pause in 2009 to reflect on what has happened during the past 10 years. We have faced many challenges, and we expect many more in the years to come.

Whatever lies in our path, we will take great pride in carrying out the FWC's responsibilities in the decades ahead. It's an honor to be part of conserving a rich heritage for future generations. FW

The bay scallop


JANESSA COBB

is a restoration success story, thriving in Florida West Coast waters

By William S. Arnold

Don't let the steel-blue eyes and the vice-like grip fool you, bay scallops are fun to catch and an even greater pleasure to study. These little animals possess a complex life cycle that fascinates and challenges scientists.

Conventional wisdom would suggest that scallops only grow in pristine waters. However, at the Florida Fish and Wildlife Conservation Commission's Fish and Wildlife Research Institute, we grow scallops in the waters of Bayboro Harbor in downtown St. Petersburg. There, the scallops share the water with heavy boat traffic from the nearby port – no place for the timid, indeed.

Before European colonization, Florida bay scallops (*Argopecten irradians concentricus*) were an abundant resident of nearshore sea grass beds from Palm Beach to the Chandeleur Islands in Louisiana. Scallops formed isolated local populations throughout this range, separated from one another by land, open-ocean or areas of inhospitable water quality. Sea grass habitat provided bay scallops a place to settle after birth and a hiding place as they grew older, larger

JANESSA COBB

Scallops are usually found on or near the bottom of sea grass beds. They are able to swim freely by snapping the two sides of their shells together.

and more obvious to predators. However, as Florida's human population grew in the 1920s and especially after 1950, development encroached upon scallop habitat. A negative outcome of growth was the loss of sea grass beds. As the sea grass went away, so went the scallops.

The loss of some scallop populations made life more difficult for the remaining populations, located in Northwest Florida, that were left with fewer neighbors located at greater distances. This was significant because while the local scallop populations were physically isolated, they were actually tightly linked to each other through the process of reproduction.

During the annual reproductive season, individual scallops release millions of eggs. The eggs go in every direction, with some settling nearby, some moving out to sea never to be seen again, and some moving up or down the coast and settling within a different local scallop population. This linkage between isolated populations was, and still is, a key to the health of all local scallop populations.

Those who pursue scallops may not understand the linkage between local scallop populations. Recreational scallopers may know all about their local scallops, but little regarding scallop populations elsewhere in the state. Naturally, if the local scallop population is doing well, most people would think the same of the other populations. Unfortunately, that's not always the case.

Even in the best of times, things don't go well for a few of the local scallop populations. Currents may sweep eggs out to sea or storms may cause scallops to die. If this occurs, there may be a lack of new scallops settling in the area. Once the scallops are gone, it is difficult to get them back unless another local population sends some along. The more neighbor populations available, and the closer those neighbors are, the sooner a collapsed local population will recover. The opposite scenario is also true – the fewer the neighbors, and the farther away they are, the longer the recovery time.

The Homosassa/Crystal River area has experienced this situation firsthand. Citrus County had long enjoyed successful scallop seasons. However, by the mid-1980s the scallops were few and far between. This happened despite the presence of vast, healthy sea grass meadows in the area.

In the early 1990s, FWRI scientists began monitoring the influx of baby scallops to Citrus County waters. They found that, compared with the healthy scallop populations near Steinhatchee and Port St. Joe, the Homosassa and Crystal River areas were receiving few baby scallops. There were too few adults in the local area to produce their own offspring, and the Steinhatchee and St. Joe scallop populations were not providing enough to go around. It was a chicken-and-egg scenario, with too few adults to make too few babies to make too few adults. This could have gone on forever.

Fortunately, the FWC took action. Beginning in 1994, the area south of the Suwannee River was closed to scallop harvest. The closure was intended to allow the scallop population to rebuild by removing harvest pressure, but no recovery was observed in subsequent years. Thus, further action was required.

The FWC, with funding from the National Oceanic and Atmospheric Administration, and in partnership with the University of South Florida, initiated a program to rebuild scallop populations. Under the guidance of Dr. Norm Blake, the program applied aquaculture techniques to raise tens of thousands of baby scallops. Researchers placed the baby scallops in cages throughout the nearshore waters of Crystal River, Homosassa, Anclote and Tampa Bay. The young scallops grew into adults and reproduced in close proximity to one another. The cages protected the growing scallops from predators. The proximity improved the potential for successful reproduction.

Within one year, researchers observed an increase in scallop abundance in the Homosassa and Crystal River areas. Today, these areas support some of the healthiest scallop populations in Florida. Due to this success, the FWC was able to reopen these areas to recreational scalloping in 2002, adding an estimated million dollars of economic value to each community. Thus, scallop recovery is a success story from many viewpoints.

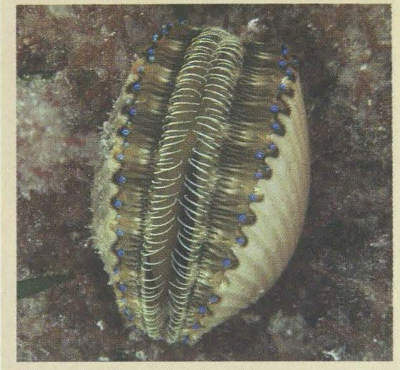
While scientists were pleased with their success in the Homosassa area, other areas also had experienced collapse of scallop populations, including Tampa Bay, Sarasota Bay, Pine Island Sound and St. Andrews Bay. Through ongoing efforts, scientists have been able to increase scallop populations in each of those areas. While some of the local populations have come back only to collapse again, that is part of the challenge and is not unexpected. Bay scallops only live for a year, so even under the best conditions some of the local populations have a bad year. In the long term, though, we anticipate these "Houdinis of the Sea" will be back stronger than ever. FW

JANESSA COBB

JANESSA COBB

***Above:** FWRI biologists measure the size of scallops and how many are found within a study area. **Top, right:** Scallops have 30 to 40 bright blue eyes along the edge of their shells. Each eye has a lens, retina, cornea and optic nerve, enabling it to detect movements and see predators.*

Bay scallop harvesting regulations in Florida


JANESSA COBB

The bay scallop season opens on July 1 of each year and runs through Sept. 10. The fishery is limited to nearshore Gulf waters north of the Pasco/Hernando county line to the west bank of Mexico Beach Canal (just west of the mouth of St. Joseph Bay). It is illegal to harvest, possess or land bay scallops outside of that region.

Within the open region, the most popular fishing areas are between the Homosassa and Crystal rivers, north and south of the Steinhatchee River, and in the enclosed waters of St. Joseph Bay.

Most scallopers use a mask and snorkel to search for scallops in sea grass beds in water less than 6 feet deep. Scallopers may only harvest their catch by hand or with a landing or dip net, and they may not harvest bay scallops for commercial purposes. Unless otherwise exempt, scallopers need a regular Florida saltwater fishing license if using a boat or if using a mask and snorkel. If wading from shore, scallopers who are non-Florida residents need a non-resident saltwater fishing license, and starting Aug. 1, residents need a regular Florida saltwater fishing license or the new shore-based license.

Each person is allowed to harvest up to two gallons of whole scallops per day or one pint of shucked adductor muscle meat (the "eye" of the scallop, the only part of the scallop suitable and safe for consumption). There is a boat limit of 10 gallons of whole scallops (or 1/2 gallon of meat) per day. Because only the meat is consumed, bay scallop harvesters are exempt from shellfish harvesting regulations that otherwise apply to clams, other types of mussels and oysters.

News & **Notes**

Docks need addresses too

Officers who patrol by boat have a big problem. Unfortunately, their problem could be yours if you call in an emergency and a water patrol officer is the first to respond. He may not be able to find your home.

"The problem is that most docks don't display street addresses," said Lt. George Pottorf, an FWC law enforcement supervisor whose squad of six officers responds more often from boats than from trucks. "When we try to get to the people, it's very difficult to find the location. The extra time it takes us to search for it could be the difference between life and death."

But Pottorf has a simple solution: Make street addresses visible from the water. He and his squad are kicking off a campaign designed to encourage people to do just that.

"If you live on a lake, river or canal, put your street address on your dock. If you don't have a dock, put it somewhere that will be visible to an officer trying to find you from the water," he said.

"I'm sure a lot of people don't really think about officers in boats responding to emergencies on land, but we are often called upon to assist other law enforcement agencies and usually arrive by boat. The incidents can range from looking for an Alzheimer's patient who has wandered away, to toxic spills in the water, to emergencies involving endangered species. Whatever the situation, the longer it takes us to find the location, the more things can deteriorate," he said.

Pottorf is concentrating his efforts on waterfront residences in Putnam and St. Johns counties for now, but he hopes the idea will catch on all over the state.

"This is a simple, often-overlooked solution that could save lives," he said.

FSU study reveals decline of Caribbean's big fish

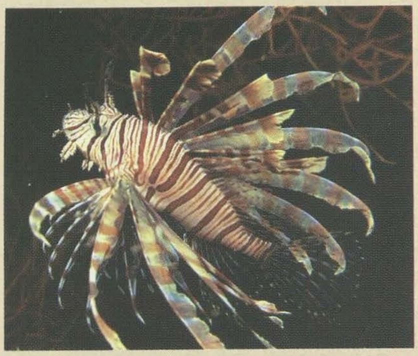
Sharks, barracuda and other large predatory fishes disappear on Caribbean coral reefs as human populations rise, endangering the region's marine food web and ultimately its reefs and fisheries, according to a sweeping study by researcher Chris Stallings of the Florida State University Coastal and Marine Laboratory.

While other scientists working in the Caribbean have observed the declines of large predators for decades, the comprehensive work by Stallings documents the ominous patterns in far more detail at a much greater geographic scale than any other research to date.

"I examined 20 species of predators, including sharks, groupers, snappers, jacks, trumpetfish and barracuda, from 22 Caribbean nations," said Stallings, a postdoctoral associate at the FSU Coastal and Marine Laboratory. "I found that nations with more people have reefs with far fewer large fish because as the number of people increases, so does demand for seafood. Fishermen typically go after the biggest fish first, but shift to smaller species once the bigger ones become depleted. In some areas with large human populations, my study revealed that only a few small predatory fish remain."

Stallings said that although several factors – including loss of coral reef habitats – contributed to the general patterns, careful examination of the data suggests overfishing as the most likely reason for the disappearance of large predatory fishes across the region. He pointed to the Nassau grouper as a prime example. Once abundant throughout the Caribbean, Nassau grouper have virtually disappeared from many Caribbean nearshore areas and are endangered throughout their range.

"Large predatory fish such as groupers and sharks are vitally important in marine food webs," Stallings said. "However, predicting the consequence of their loss is difficult because of the complexity of predator-prey interactions. You can't replace a 10-foot shark with a 1-foot grouper and expect there to be no effect on reef communities. Shifts in abundance to smaller predators could therefore have surprising and unanticipated effects. One such effect may be the ability of nonnative species to invade Caribbean reefs."



FILE PHOTO

Scientists believe the nonnative lionfish may now be as abundant as many native grouper species in the Atlantic Ocean.

A case in point, Stallings said, is the ongoing invasion by Pacific lionfish, which were introduced by aquarium releases.

"Lionfish are minor players on their native Pacific reefs, yet they are undergoing a population explosion and overeating small fishes in the greater Caribbean region," said Professor Mark Hixon of Oregon State University. "Preliminary evidence suggests that lionfish are less invasive where large predatory native fishes are abundant, such as in marine reserves."

Given that about half the world's populations live near coastlines and that the world population is growing, demands for ocean-derived protein will continue to increase, Stallings warned. He said meeting such demands while retaining healthy coral reefs may require multiple strategies, including implementation of marine reserves, finding alternative sources of protein, and increasing efforts to implement family-planning strategies in densely populated areas.

Read more about his research at www.marinelab.fsu.edu/news/predators.

Biologists expand bass research at Lake Okeechobee

Biologists with the FWC are conducting an experiment. They are stocking a small area of Lake Okeechobee, called Cody's Cove, with Florida largemouth bass. The area was chosen because of its recovering aquatic plant habitat and exceptional forage base.

"This evaluation will provide us with important data on using stocking as a management tool to boost the bass population in a small area of a large water body," said Don Fox, FWC biologist and Okeechobee project leader. "However, the key to returning a healthy, robust fishery to Lake Okeechobee is not by stocking fish, but by maintaining beneficial aquatic habitat through proper water levels and lake-management activities."

The fingerlings are being produced at the Florida Bass Conservation Center from brood fish collected from the Rim Canal of Lake Okeechobee in January. These parent fish were genetically profiled so that their offspring can be identified after release. Spawning pairs were placed into ponds at the FBCC and allowed to reproduce. The fry produced take about three to four weeks to grow into fingerlings.

In March, FWC biologists stocked approximately 22,000 largemouth bass fingerlings in Lake Okeechobee. During the week of April 6, approximately 53,000 largemouth bass were stocked. FWC biologists plan to stock as many as 150,000 fingerlings this year.

When Cody's Cove is sampled to evaluate the success of the stockings, biologists will take fin-clip samples of the largemouth bass and have them genetically tested at the FWC's Fish and Wildlife Research Institute lab. Test results will determine if the bass collected came from stocked fish or wild fish.

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RICHLOAM STATE FISH HATCHERY
FLORIDA FISH & WILDLIFE CONSERVATION COMMISSION
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***Above:** These largemouth bass fingerlings will be stocked in Cody's Cove, Lake Okeechobee. **Top, right:** Fingerling bass, after release. **Right:** FWC hatchery truck at Cody's Cove.*

The Nature Conservancy buys habitat for rare species

Relict sand dunes, flatwoods and marsh in Levy County important to the survival of several rare and threatened species, particularly the Florida scrub-jay, were protected by The Nature Conservancy and will eventually become part of the Cedar Key Scrub State Reserve.

"This property has been identified as a priority for acquisition since 1981," said Dan Pearson, a biologist for Florida State Parks. "It includes significant areas of scrub and scrubby flatwoods which provide breeding and foraging habitat for the Florida scrub-jay, the eastern indigo snake, the gopher tortoise and the Florida mouse. The Nature Conservancy's acquisition of this property will preserve a significant portion of the Florida scrub-jay habitat in the core of the range of the Cedar Key metapopulation."

Levy County is home to the second-most threatened population of Florida scrub-jays in the state; the first is in northern Brevard County, according to the U.S. Fish and Wildlife Service. The Nature Conservancy purchased the site using mitigation funds provided through a memorandum of understanding with the service.

The Cedar Key scrub is special because of the relict sand dune ridges that occur in this area of the Gulf Coast. The great Gulf Hammock, a region of low-lying coastal forests and hammocks, extends to the north and south of these isolated scrub ridges. Purchased in 1978 under the Environmentally Endangered Lands Program, the Cedar Key Scrub State Reserve was acquired to preserve these rare natural communities and geological features. The 125 acres purchased by The Nature Conservancy are adjacent to the reserve.

THOMAS J. DUNKERTON

Florida scrub-jays are territorial and live in groups or families of two to 10 individuals. Often, one member of the group acts as a sentinel, while the others forage.

News & Notes

Top tips for water conservation

Did you know that a three-person household can save 675 gallons of water a month by simply turning off the faucet when brushing teeth and shaving?

These kinds of simple changes to your daily routine make a big difference. That's why the Southwest Florida Water Management District is sharing its top outdoor and indoor water-saving tips.

Outdoor tips

- A garden hose without a shutoff nozzle can waste up to 530 gallons of water in an hour. Use a shutoff nozzle on your hose that can be adjusted down to a fine spray so that water flows only as needed. When finished, turn it off at the spigot instead of at the nozzle to avoid leaks.
- Rain shutoff devices, which are already required by law on all automatic systems installed since 1991, will shut off your automatic sprinkler system if enough rain has fallen. These devices can save up to 30 percent or more than a timer-only system. Set this device to shut off your system when a half inch of rain has fallen.
- Check the operation of the rain shutoff device at least once a year and replace the unit if it is not operating correctly.
- If rain is predicted within 24 hours, don't irrigate.

Indoor tips

- Based on a three-person household, you can save up to 870 gallons per month by replacing older toilets with new low-flow models.
- Save up to 690 gallons per month by limiting showers to five minutes and installing water-efficient showerheads. Showering is one of the top residential water uses in the United States, accounting for more than 1.2 trillion gallons of water each year. Approximately 17 percent of indoor water use is for showering.
- Save up to 390 gallons per month by replacing your conventional clothes washer with a new water-efficient model. You also can save up to 175 gallons per month by only running your clothes washer and dishwasher when they are full.
- You can save up to 250 gallons of water per month by rinsing fruit and vegetables in a bowl of water instead of under running water.
- You can save up to 200 gallons of water a day by fixing a leak inside your toilet.
- You can save up to 30 gallons of water a day by repairing a dripping faucet.
- Install instant water heaters in bathrooms and in the kitchen so you don't have to let the water run while it heats up.

To learn more about water conservation and the drought, visit the District's Web site at www.WaterMatters.org/drought.

FWC delivers hay to stranded cattle after the flood

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FWC Officer Jeff Summers (left, on airboat) and Sgt. Chris Hughes, Hamilton County Sheriff's Office, unload hay for stranded cattle.

The cattle were stranded. Their bellowing carried across the floodwaters of the Alapaha River.

The river rose to record levels the first week of April, exceeding the 1948 flood event and causing severe flooding in Hamilton County. Not only did the raging river damage homes and businesses in the area, it also stranded local livestock.

FWC personnel, working with the Hamilton County Sheriff's Office and Florida Department of Environmental Protection officers, delivered hay to the stranded animals.

"This isn't normally something we would do," explained FWC Officer Jeff Summers. "However, because of the flood and our specialized equipment, our assistance was requested to help feed the cattle."

The herd belongs to Dr. Irvin "Bo" Bembry of Jasper. After 45 bales of hay were delivered to the boat launch area off Southwest 86th Boulevard, north of Jasper, Summers loaded up his airboat.

"We had to go about half a mile 'upstream' to get to the animals," Summers said. "About 35 to 40 cattle were stranded in the flood."

It took four trips to deliver all the bales.

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Calves watch an airboat approach their "island" in the flood.

Get Outdoors Florida!

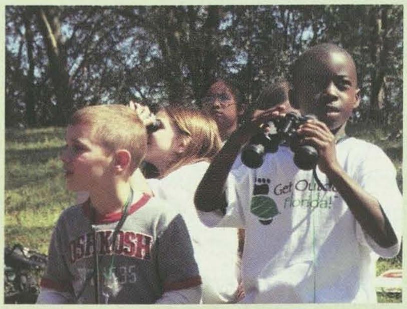
As the capitol building in Tallahassee loomed in the background, more than 40 kids came together in a park to enjoy the outdoors, hours after Gov. Charlie Crist and his Cabinet approved on March 24 a resolution containing the Children's Outdoor Bill of Rights.

The Get Outdoors Florida! coalition, a partnership of land managers, government agencies, children's advocates, health care professionals, public interest groups and other individuals, sponsored the resolution. The resolution encourages everyone to bring families and children back to nature.

"We strive to engage families in outdoor experiences that will help them achieve healthier lifestyles and gain an appreciation of Florida's natural resources," said Bob Wattendorf of the FWC, one of the coalition's partners. "The focus is on safe and ecologically sustainable, nature-based activities that can be enjoyed for a lifetime."

As the children practiced casting for "backyard bass" with FWC staff, ran an obstacle course replete with hurdles and then snacked on fruits provided by Capital Health Plan, they smiled, cheered and clapped, all the while burning a fully renewable energy all their own.

Meanwhile, other kids stimulated their brains and powers of observation by using modern GPS devices to locate and learn about some of Florida's popular wildlife with help from the U.S. Forest Service and the Florida Department of Environmental Protection. They interacted with professional handlers from the Tallahassee Museum who showed off baby alligators, owls and tadpoles. Kids learned how to use binoculars to spot birds, while also learning about the winged creatures' habitats, thanks to folks from the FWC.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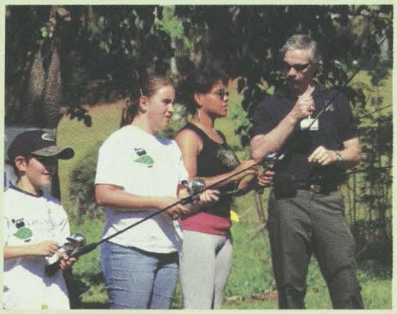
Kids learn to use binoculars for a close-up view of Florida's birds at the "Get Outdoors Florida!" kickoff event.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Learning to cast is among the first steps for many youth on the path to a lifetime of recreational fishing enjoyment.

Florida Disabled Outdoors Association provided the inspiration and proof that no matter what physical challenges people face, there is always a way to get outdoors and enjoy nature.

Research published by the Children and Nature Organization has shown that an array of major national health issues are related to reduced physical activity and a reduced connection with nature. Negative effects from this disconnect include obesity, attention deficit disorder, impaired social skills, higher stress levels, asthma and poorer performance in the classroom.

To make it even easier for parents and groups who want a new experience in nature, www.GetOutdoorsFlorida.com lists activities and tips. The Web site also provides a list of partners and events from all around the state. The partners take advantage of Florida's year-round temperate climate to provide an unending array of outdoor opportunities. The site also provides information on how to become a partner or make a donation.

Native American tribes receive federal grants for conservation projects

Secretary of the Interior Ken Salazar announced that 41 Native American tribes in 16 states will receive $7 million in competitive federal grants to undertake a wide variety of conservation projects. Funding is provided through the U.S. Fish and Wildlife Service's Tribal Wildlife Grants program, which helps tribes defray the cost of implementing programs on their lands benefiting fish, wildlife and their habitat.

"Native American tribes manage nearly 100 million acres of land in the United States, land that provides important habitat for some of our nation's most treasured species. This program provides crucial financial support to tribal governments to help them manage and improve their fish and wildlife heritage for the benefit of all Americans," Salazar said.

Since its inception in 2003, the competitive Tribal Wildlife Grants program has awarded a total of nearly $50 million to federally recognized Indian tribes, enabling them to enhance their ability to manage, monitor and conserve important fish and wildlife resources. Species benefiting from these grants include those of Native American cultural significance, as well as many species not hunted or fished.

This year's funded projects run the gamut of wildlife conservation activities, from restoring wetlands and other habitat, to conducting traditional wildlife surveys, and from invasive weed management to fishery studies.

The Seminole Tribe of Florida was awarded $200,000 for a project to implement previous habitat assessment and management needs for the red-cockaded woodpecker, Everglades snail kite and other species. The effort will involve prescribed burns and fire prevention planning and training.

News & **Notes**

Flocking to the rescue of birds

"Since the birth of our nation, four American bird species have gone extinct, including the passenger pigeon, once the world's most abundant bird. At least 10 more species are possibly extinct."

This sad news about troubled ecosystems in the United States comes from the recently released *State of the Birds Report, 2009*, commissioned by the U.S. Fish and Wildlife Service.

The report laces its bad news about drastic losses of migratory birds with the optimistic and realistic view that individuals, businesses, associations and government agencies can reverse this trend by working together. In fact, there are probably 100 things people can do to help birds.

Something as simple as stopping at one of the Great Florida Birding Trail sites can make a difference, and there are almost 500 of them.

"Each time a person goes birding, his or her activities fuel a local economy," said Mark Kiser, a wildlife biologist and birding trail coordinator for the FWC. "When people buy gas, eat lunch at a deli or spend the night at a motel, they give that community a financial reason to conserve its wild lands."

In the spirit of rediscovering Florida and the new Get Outdoors Florida! campaign, in which the FWC is a partner, parents are encouraged to lure their children away from the TV and computer. One option that can help mankind's feathered friends is to take a bird book and a pair of binoculars or camera and head off to a park or one of the birding trail sites. MyFWC.com's "Quick Clicks" will point people where they want to go.

"You can help save birds by watching birds," Kiser said. "Birders can take part in citizen science and volunteer projects to help protect Florida's birds."

For example, there's the Christmas Bird Count, Great Backyard Bird Count, North American Migratory Bird Count, U.S. Nightjar Survey Network and the Big Sit.

Kiser also has suggestions for people who aren't adept at identifying a lot of different birds. They could:

- Be beach stewards. Safeguard nesting areas from people.
- Monitor backyard birds at feeders as part of Cornell University's Project Feeder Watch.
- Volunteer to remove exotic plants or build nest boxes at a local park.
- Report bird-band numbers to the U.S. Geological Survey Patuxent Wildlife Research Center.
- Volunteer to assist with a census at a park or wildlife refuge.
- Sign up for a bird walk to learn more about birds and the perils of being a bird.

THOMAS J. DUNKERTON

Snowy egrets usually lay three to five blue-green eggs that hatch in about 18 days.

"By counting birds and reporting their sightings, birders can help scientists better monitor population trends," Kiser said.

Of course, land conservation is also a major way to preserve and sustain the bird species on this planet.

"The Florida Bird Conservation Initiative has a Web site with many helpful resources, including an entire page dedicated to climate change resources," said Elena Sachs, FBCI coordinator for the FWC.

One of the conclusions of the *State of the Birds Report, 2009* is that bird populations are changing due to climate change

Conservation pays off for birds and for the bottom line. The Great Florida Birding Trail is an integral part of Florida's $3.3-billion-per-year wildlife viewing industry.

"Birding and wildlife viewing support an estimated 34,683 jobs in Florida," Kiser said.

Striped bass and flounder top list of anglers' favorite saltwater species

In a February 2009 survey from AnglerSurvey.com, striped bass is America's most popular saltwater gamefish, with 20 percent of surveyed anglers reporting they targeted striped bass at least once. Flounder (of which several species live in American waters) were the second most popular, with 19 percent of anglers reporting they targeted the tasty flatfish.

This survey (on which multiple answers were allowed) reported which gamefish species were the most sought-after, not necessarily the most frequently caught. Other popular gamefish that anglers reported targeting were grouper, snapper, and sea bass (14 percent); redfish, also called red drum or channel bass (13 percent); spotted seatrout and weakfish (13 percent); and bluefish (12 percent).

Greenhouse gases continue to climb despite economic slump

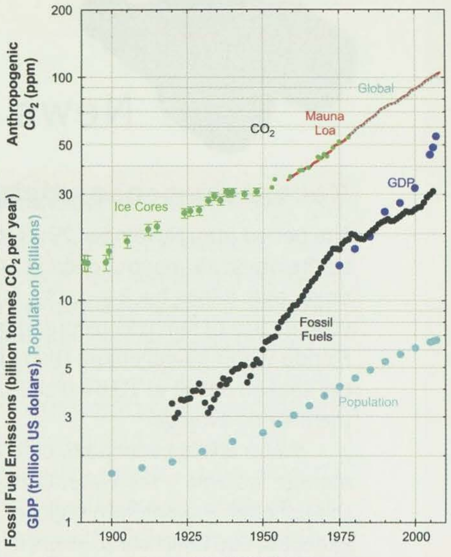
Two of the most important climate change gases increased last year, according to a preliminary analysis for NOAA's annual greenhouse gas index, which tracks data from 60 sites around the world.

Researchers measured an additional 16.2 billion tons of carbon dioxide (CO^2) - a byproduct of fossil fuel burning - and 12.2 million tons of methane in the atmosphere at the end of December 2008. This increase is despite the global economic downturn, with its decrease in a wide range of activities that depend on fossil fuel use.

"Only by reducing our dependence on fossil fuels and increasing energy production from renewable resources will we start to see improvements and begin to lessen the effects of climate change," said scientist Pieter Tans of NOAA's Earth System Research Laboratory in Boulder, Colo. "At NOAA we have monitored carbon dioxide emissions and other greenhouses gases for decades and will continue to do so to help assess the situation and advise decision makers."

Viewed another way, for every million molecules of air, another 2.1 molecules of carbon dioxide entered the atmosphere last year and stayed there - slightly less than the 2.2 parts per million increase in 2007. Total global concentrations topped 386 ppm, compared with 280 ppm before the industrial revolution began in the 1800s.

"Think of the atmosphere and oceans taking in greenhouse gases as a bathtub filling with more water than the drain can empty, and the drain is very slow," said Tans. "We need to reduce greenhouse gas emissions to the point where they match levels that can be absorbed by Earth's ecosystems."



This graph shows anthropogenic atmospheric carbon dioxide, fossil fuel emissions, world gross domestic product and world population for the past century. Carbon dioxide data from Antarctic ice cores (green points), Mauna Loa Observatory (red curve) and the global network (blue dots).

The increases in CO^2 and methane during 2008 are slightly less than those measured in 2007, but fall well within the range of yearly fluctuations from natural changes, according to NOAA experts.

The rise in CO^2 levels varies from year to year along with plant growth and decay, wildfire activity, and changes in soil conditions. Emerging from that natural variability is a consistent upward trend produced by burning coal, oil and gas for transportation and industry.

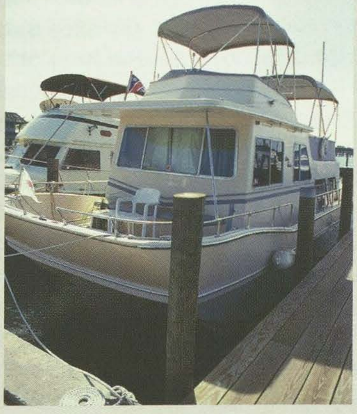
Methane levels rose in 2008 for the second consecutive year after a 10-year lull. Atmospheric concentrations increased by 4.4 molecules for every billion molecules of air, bringing the total global concentration up to 1,788 parts per billion, according to NOAA data.

Pound for pound, methane is 25 times more potent as a greenhouse gas than carbon dioxide, but there's far less of it in the atmosphere and it is measured in parts per billion. When related climate effects are taken into account, methane's overall climate impact is nearly half that of carbon dioxide.

More than $12.5 million in competitive grants awarded for boating infrastructure projects

Secretary of the Interior Ken Salazar announced more than $12.5 million in competitive grants that will be awarded to 11 states ranging from California to Maine for 14 boating infrastructure projects. The grants, which will help fund construction of docks, boat slips and other facilities to support recreational boating, are made available through the U.S. Fish and Wildlife Service's Boating Infrastructure Grant program.

"Boating is one of our country's favorite pastimes, and the Boating Infrastructure Grant program greatly enhances recreational opportunities while conserving America's aquatic natural resources," Salazar said. "Spending by boaters provides significant revenues for business owners and employees in every state. This program, funded by boaters, is a prime example of the direct economic benefits boating can bring to local economies."


FILE PHOTO

The FWC will receive $500,000 from the BIG program to provide tie-up facilities in West Palm Beach.

Funding for the BIG program comes from the Sport Fishing and Boating Trust Fund, formerly known as the Aquatic Resources Trust Fund, which is supported by excise taxes on certain fishing and boating equipment and boat fuels. The FWS will also release approximately $3 million to 40 states willing to match a smaller, non-competitive grant program known as BIG Tier One funding.

The FWC, in cooperation with the city of West Palm Beach, will receive $500,000 and match that amount with more than $1.4 million to provide transient tie-up facilities for up to 37 vessels along the Atlantic Intracoastal Waterway in downtown West Palm Beach. The proposed project complements ongoing waterfront development in West Palm Beach.

News & **Notes**

Record dry season tightens grip on region

The period from November 2008 through April 2009 ranks as the driest six-month period in South Florida history based on records dating back to 1932. In April, an average of only 0.64 inches of rain was recorded across the 16-county South Florida Water Management District, increasing the 2008-2009 dry season deficit to 10.64 inches, which is only 30 percent of the historic average.

Water levels continue to drop in the primary regional storage systems – the Water Conservation Areas and Lake Okeechobee – along with regional canals. Residents can expect to see lower canal levels in their residential areas as well.

The high regional evaporation rate continues to quickly draw down water levels in the conservation areas without any significant rain to counter the loss. Water levels in wells monitored by the district also declined. Dry conditions have left many areas with a high risk for wildfires and have impacted waterway navigation.

SOUTH FLORIDA WATER MANAGEMENT DISTRICT

The ground has cracked in this dry wetland just outside of Everglades National Park in Miami-Dade County.

U.S. Fish and Wildlife Service presents Regional Director's Conservation Awards

Five USFWS partners were among 18 honored with Southeast Regional Director's Conservation Awards by Sam D. Hamilton, the U.S. Fish and Wildlife Service's southeast regional director. The awards were presented in Atlanta.

Anngeolace Blue-McLean, Friends of the Chassahowitzka National Wildlife Refuge Complex, Crystal River:
Anngeolace Blue-McLean led the efforts of the Refuge complex's Friends group. This group of volunteers established a Friends Group for the Tampa Bay National Wildlife Refuges Complex, including Egmont Key, Passage Key, and Pinellas National Wildlife Refuges. The Friends also secured a grant from the Lastinger Foundation for $152,000 to provide land-base access to the Crystal River National Wildlife Refuge, and is helping develop public use facilities there. In addition, the Friends group is leading the effort to acquire the 57-acre Three Sisters Springs property, which is planned for the Crystal River Refuge.

Avian Reconditioning Center, Apopka:
Scott and Carol McCorkle reach more than 10 thousand people annually by providing educational programs featuring live hawks, falcons, kites, owls and eagles. The center assisted the FWS in evaluating a bald eagle for possible release to the wild that had been previously considered non-releasable and was in captivity for more than five years. The eagle was successfully released into the wild after more than six months of reconditioning in a gradual release program.

FWC, Division of Law Enforcement, North Central Region:
Capt. John Burton and his staff assisted the FWS's manatee protection efforts during the 2007-2008 manatee season when the federal agency had law enforcement staff vacancies. The FWC provided two officers each in the Kings Bay and Homosassa River areas. During busy weekends, it also detailed officers from other counties who normally patrolled state waters offshore. These efforts ensured manatees received protection in their wintering areas.

Kenneth Haddad, executive director, FWC:
Haddad provides leadership and support for FWS projects, such as the Manatee Forum, bald eagle management, the Interagency Florida Panther Response Team, manatee law enforcement efforts, and the Southeast Aquatic Resources Partnership. He coordinates with the FWS on such responsibilities as permit reviews, strategies for species management, and the joining of state and federal resource priorities.

Terrence Salt, former senior advisor to the Secretary of the Interior's on Everglades restoration, Miami:
Salt has worked for more than two decades on large landscape scale restoration projects in South Florida. His experience enhanced the FWS's leadership role in Everglades Restoration and allowed the FWS to achieve maximum conservation benefits for trust resources, including refuge lands, threatened and endangered species, wetlands, migratory birds, and fisheries. The Comprehensive Everglades Restoration Plan consists of 68 integrated water management features affecting more than 13 million acres in South Florida. Comprehensive Everglades Restoration Plan's overarching purpose is to restore the South Florida ecosystem while addressing water-related needs for South Florida's growing population. Salt's guidance consistently provided on-the-ground benefits for fish and wildlife resources. A retired Army Colonel with more than 30 years of military service, Salt now serves as the deputy assistant secretary of the Army overseeing civil works projects.

New Web site promotes boating safety and weather awareness

NOAA's National Weather Service and the National Safe Boating Council have launched a new Web site to help boaters stay safe this spring and summer.

"Warm weather means more boats on the water, but it also brings the possibility of severe storms," said Jack Hayes, director of the National Weather Service. "Since weather can turn on a dime, boaters should monitor NOAA Weather Radio All Hazards before leaving the marina and continually while out on the water. Marine hazards can come in many forms, from thunderstorms to high winds, dangerous waves and swells to dense fog."

"The National Safe Boating Council is proud to be part of this new partnership with NOAA," notes Virgil Chambers, executive director of the National Safe Boating Council. "There are varying factors that help boaters stay safe - always wearing a life jacket and being aware of weather conditions are two very important aspects to safer boating."

NOAA provides a suite of products to help boaters get up-to-date weather information. In addition to point-and-click forecasts that are available to all boaters, the Web site links to the latest marine forecasting innovations and to regional marine forecast Web portals - a one-stop shop for local forecasts, observations and hazards. Visit the safe boating Web site to learn about weather terminology and new safety statistics on what causes the most boating fatalities and what actions to take for a safe 2009 boating season.

Nesting shorebirds protected at Estero Critical Wildlife Area

Little Estero Island Critical Wildlife Area, at the southern end of Fort Myers Beach, is one of the few state-owned wildlife areas in Lee County that provides nesting habitat for endangered shorebirds and sea turtles. On April 7, FWC staff and volunteers identified, flagged and posted nesting areas typically located in dry dune areas above the high-tide mark.

Posted nesting areas are off limits to beachgoers and their pets between the time of posting and Aug. 31, when young birds leave their nests. However, the water's edge is accessible to beachgoers by walking around posted areas or using marked thoroughfares between posted areas.

Posting is necessary because imperiled shorebirds and sea turtles compete with natural predators, land developers and outdoor enthusiasts for narrow strips of sand - with mixed results.

Human activity causes the greatest number of problems for beach-nesting birds that often get nervous around recreational activities such as beach volleyball and kite-surfing. The family pet romping after a windblown Frisbee also can create problems.

Frightened birds sometimes flee their nests, leaving their chicks or eggs vulnerable to a variety of hazards that include predation and dehydration. Dogs are particularly disruptive to the birds, because they resemble natural predators such as raccoons and foxes.

Once adult birds are frightened off the nest, even for a short time, it exposes young chicks to the ravages of the summer sun. Without parent birds providing shade, it only takes a few minutes for temperatures in the nest to rise above 100 degrees, resulting in death for the chicks. Young chicks and eggs also are a favorite target of crows and gulls when parents are not immediately available to challenge hungry predators.

"It's not so much that people don't care; it's that nests are very difficult to detect. The nests are simple, shallow depressions in the sand, and eggs are well-camouflaged," said Nancy Douglass, regional nongame wildlife biologist for the FWC.

The process of nesting generally starts in April, when beach-nesting birds stake out suitable sites, followed by sea turtle nesting in May. Professional wildlife biologists and a cadre of volunteers mobilize to post areas, gather data, inform the public and monitor progress of wildlife offspring.

"Shorebirds, marine turtles and their nests and eggs enjoy protection under state and federal law," Douglass said. "However, it is the public's sense of stewardship for the resource that's the real key to protecting future generations of beach-nesting wildlife."

Protected Bird Site
AREA CLOSED
NO PEOPLE, DOGS, OR VEHICLES ALLOWED
These birds are protected by federal and state law.
DO NOT DISTURB
Florida Fish and Wildlife Conservation Commission

FWC FILES

Signs are posted on local beaches during shorebird nesting season, which close protected areas to the public.

"We're asking those who use our state's beaches to avoid nesting areas where colonies of shorebirds are tending their eggs or young chicks. We're not asking people to stop kite-flying or enjoying the beach, we're just asking beachgoers to avoid a handful of closed areas where there are nesting birds," Douglass said.

For more information about shorebirds, visit "Living with Wildlife" on MyFWC.com/wildlife, and download the *"Co-existing with Florida's beach-nesting birds"* brochure.

News & **Notes**

World's large marine ecosystems heating up, altering fisheries catches

A new United Nations report, with key contributions from NOAA, found that 61 of the world's 64 large marine ecosystems – large coastal ocean waters adjacent to continents – show a significant increase in sea surface temperatures in the last 25 years, contributing to decreasing fisheries catches in some areas and increasing catches in others.

Harvests in several northern Atlantic LMEs are increasing due to the increase in zooplankton, a vital fish food, brought about by the warming waters.

However, catches are declining in several European LMEs, according to the United Nations Environment Programme report, The UNEP Large Marine Ecosystem Report: a Perspective on Changing Conditions in LMEs of the World's Regional Seas.

"The large majority of these ecosystems are shared by two or more countries, underscoring the need for regional cooperation to advance sustainable management," said Dr. Kenneth Sherman, director of the NOAA Large Marine Ecosystem program. "The added stress of increasing sea surface temperatures makes it that much more important that nations cooperate to sustainably manage large marine ecosystems, the areas where most marine fisheries are produced and caught."

According to the report, 70 percent of global fish stocks within LMEs are overexploited, reducing the availability of fish for food, which is especially critical in LMEs off the coasts of Africa, Asia and Latin America, where fish is a major protein source. This contrasts starkly with the trend in the U.S. where only approximately 23 percent of domestically managed stocks are overfished, according to the most recent status of domestic stocks report. The U.S. federal law requiring the elimination of overfishing on all domestic stocks by 2010 is helping rebuild depleted stocks to sustainable levels.

The U.N. report also said that an unprecedented volume of nitrogen effluent running into coastal waters is causing a greater frequency and extent of harmful algal blooms, oxygen depletion events and dead zones. During the algal blooms, small plankton consume excessive amounts of available dissolved oxygen, sink to the bottom and deprive fish and shellfish of the oxygen they need to survive.

"The effort to reverse the degraded status of LMEs will take time, well-focused and creative policies, and funding," said Achim Steiner, U.N. under-secretary general and executive director of UNEP, the agency that released the report.

New report shows waterfowl hunting's contribution to U.S. economy

Waterfowl hunters spent $900 million on a variety of goods and services from food, transportation, guns and decoys to hunting dogs, clothing and other incidental expenses in 2006, according to a new report issued by the U.S. Fish and Wildlife Service. These trip and equipment-related expenditures generated more than $2.3 billion in total economic output for 2006, which resulted in $157 million in federal and state tax revenues, supported more than 27,000 jobs, and generated more than $8.5 million in employment income.

THOMAS J. DUNKERTON

Northern pintail ducks have been called the "greyhounds of the air" because of their long, slim bodies and wings.

"The financial support provided to conservation, and the economy as a whole, is significant," said Rowan Gould, acting Director of the Service. "Waterfowlers, like many other sportsmen, have a proven track record in their contributions to the U.S. economy, and that's certainly something to take comfort in during these tough economic times."

The report, The Economic Impact of Waterfowl Hunting in the United States, is an addendum to the 2006 National Survey of Fishing, Hunting, and Wildlife-Associated Recreation. The report shows more than 1.3 million people, 16 years of age and older, hunted waterfowl in 2006. Waterfowl hunters represented 10 percent of all hunters, 7 percent of all hunting trip-related expenditures, and 6 percent of all equipment expenditures.

According to the report, waterfowl hunters tend to be younger, have higher educational achievements, and are more affluent compared to all hunters. The majority (74 percent) of waterfowl hunters live in the South and the Midwest.

"The Service plays a key role providing outdoor recreation opportunities such as hunting," Gould said. "And hunters are critical partners - in part through their purchase of Federal Duck Stamps and a tax on firearms and ammunition that supports habitat conservation - for our efforts to conserve wildlife and wetlands for future generations."

The waterfowl hunting report in addition to the detailed National Survey report, state reports, and other addenda can be downloaded at: wsfrprograms.fws.gov/Subpages/NationalSurvey/reports2006.html.

Volunteers team up to "plant" oyster reef in Estero Bay

SOUTH FLORIDA WATER MANAGEMENT DISTRICT

Scientists from the South Florida Water Management District, accompanied by graduate students from Florida Gulf Coast University and community volunteers, "planted" a 400-square-meter oyster reef in the Estero Bay State Aquatic and Buffer Preserve.

Restored and improved oyster reefs enhance filtration and help restore the water quality of Estero Bay, which drains 293 square miles of the region's watershed. An individual oyster can filter 4 to 34 liters of water per hour, removing phytoplankton, particulates, sediments, pollutants and microorganisms from the water. The filtering process improves light penetration into the water, promoting the growth of underwater vegetation.

Fossil oyster shells, contained in wire-mesh bags prepared by the students, were used as the reef-building materials. District scientists and community volunteers placed the 20- to 30-pound bags around mangrove islands in the bay. Collectively, the bags will form a reef habitat where oyster larvae can settle and grow to adult size.

Within one year, the 400 meters of oyster reef are expected to:

- Produce more than 1,000 oysters per square meter.
- Filter at least 10 liters of water and particulates per oyster per hour from the water column. That represents 96 million liters of water per day, or the equivalent of 38 Olympic-sized swimming pools.
- Provide stability to mangroves and shorelines by minimizing the impact of boat wakes.
- Provide food, shelter and habitat to nearly 300 species of invertebrates, fishes and birds.

Apple snail tag-and-release experiment to benefit Everglades, Florida wildlife

Scientists from the South Florida Water Management District tagged and released approximately 1,600 apple snails in an experiment designed to study reestablishing the significant species in Lake Okeechobee. Apple snails are an important food source for endangered snail kites, baby alligators and other wildlife. The snail release supports the District's Everglades and ecosystem restoration efforts.

Harbor Branch Oceanographic Institute delivered the snails, hatched from eggs collected in Lake Kissimmee in 2008, to a District science lab in West Palm Beach. The Fort Pierce institute has been a longtime SFWMD partner in researching strategies and utilizing aquaculture to replenish the species in the wild, especially to benefit the endangered snail kite.

SOUTH FLORIDA WATER MANAGEMENT DISTRICT

Scientists at the lab first used a special glue to attach plastic tags to the mollusk shells. The next day, SFWMD scientists released the snails in a lakeside marsh.

Researchers return to the release site every two to three days to collect data, and they expect to have significant information on survival rates and other key indicators in about a month. The data collected will aid in restoring and protecting the Everglades and its wildlife.

April 2009 was Earth's fifth warmest on record

The combined average global land and ocean surface temperatures for April 2009 ranked fifth warmest since worldwide records began in 1880, according to an analysis by NOAA's National Climatic Data Center in Asheville, N.C.

Temperature highlights

(Fahrenheit measurements used)

April's combined global land and ocean surface temperature was 1.06 degree above the 20th century average of 56.7 degrees. The most significant warmth occurred in northern and northeastern Asia, Europe and the southern oceans.

The global combined land and ocean surface temperature of 55.8 degrees is tied with 2003 for the sixth-warmest January-through-April period on record. This value is 0.97 degree above the 20th century average.

The global land surface temperature for April was 1.8 degrees above the 20th century average of 46.5 degrees.

Global highlights

Arctic sea ice coverage of 5.6 million square miles was the tenth-lowest April extent since satellite records began in 1979. This value is 2.8 percent below the 1979-2000 average. In contrast, the April Southern Hemisphere sea ice extent of 3.2 million square miles was 13.5 percent above the 1979-2000 average. April is early in the melt season for Arctic sea ice, and early in the growth season for Antarctic sea ice.

Based on NOAA satellite observations, April snow cover extent was below the 1967-2009 average for the Northern Hemisphere. This marked the hemisphere's sixth consecutive April with below-average snow cover extent. Warmer-than-normal conditions over Eurasia contributed to that region's fourth-smallest April snow cover extent during the period. North American snow cover extent was slightly above average during the month.

Archery

UNION ACADEMY MIDDLE SCHOOL/ BARTOW, FL

scores a bull's eye with Florida's students

Article and photographs by Steven Robbins

An age-old sport with roots in medieval times is thriving in our state. Shooting a bow and arrow is enjoyed by school kids from the Panhandle to the Everglades, and bowhunting is experiencing a resurgence in popularity, due in part to programs offered by the Florida Fish and Wildlife Conservation Commission.

In February of 2004, the first National Archery in the Schools Program teacher training workshop in the state was at Deerlake Middle School in Tallahassee. Florida became the 24th state to offer NASP in the physical education curriculum. Before presenting the two-week archery course, teachers undergo an eight-hour NASP basic archery instructor training program. These workshops are conducted by hunter safety coordinators in the five FWC regions. Currently, 169 elementary, middle and high schools have students shooting bows and arrows for two weeks in their gym classes.

Students who do not normally participate and enjoy sports-related or extra-curricular activities seem to excel in this program – something that invariably carries over into their attitude, work habits and other school activities. NASP often inspires after-school activities shared by families and friends. The program teaches discipline, respect and self-control.

In February 2009, Florida concluded its second annual NASP State Tournament, conducted in a virtual format. Shooting in their own gymnasiums, 751 youngsters in 35 Florida schools competed for trophies and medals in their grade level. This year's winners were Flagler Palm Coast High School, Daniel Jenkins Academy (a middle school in Haines City) and College Park Elementary School in Ocala.

The Bowhunter Education Program, once offered only as a 12-hour course, has an additional new distance-learning format. While the traditional presentation is still available, students can go to the National Bowhunter Education Foundation Web site, take the online component and then register for a field day in their area. For four hours, they engage in hands-on topics such as erecting and safe use of tree stands, following blood trails and learning to use a map and compass, along with shooting practice. The convenience of this application enables students to receive their NBEF certification in just one morning at the range.

STEVEN ROBBINS

Above: *2009 National Archery in the Schools Program Tournament top female and male shooters, Shyla Ramage and Pliny Sohl III of Flagler Palm Coast High School.* ***Previous page:*** *A student at Union Academy Middle School in Bartow enjoys the experience of the archery tournament.*

STEVEN ROBBINS

College Park Elementary students with their trophy and medals.

At least one distance-learning course is available every month somewhere in the state. Distance learning is one of the sessions available at the FWC's "Becoming an Outdoors Woman" workshops. For a complete listing of traditional and distance-learning Bowhunter Education courses, visit MyFWC.com/SAFETY/Safety_hunt_safety_bowhunting_course.htm, and sign up today.

The FWC's Hunter Safety and Ranges Section is partnering with communities, archery businesses and interested persons to establish community archery parks and archery centers around the state. Talks are ongoing with the parks department in Escambia County, and plans are in the works for a community archery park in the Jacksonville area. But the crown jewel in this effort will be the Easton-Newberry Archery Center in Newberry, about 20 miles west of Gainesville.

This complex will be at an existing parks and recreation facility north of town. It will house the offices of the National Alliance for the Development of Archery and a professional archery coach, employed by the Easton company. The FWC has provided funding for a classroom for hunter safety and Bowhunter Education courses. The complex will have indoor and outdoor ranges, a gymnasium and a 3-acre outdoor area set up with bowhunting course targets and shooting platforms. Beginning in 2010, the Easton-Newberry Archery Center will become the home of the annual NASP Florida State Tournament.

Archery is another wonderful way for Florida residents to "Get Outdoors," and the FWC plans to keep busy erecting community archery parks for years to come. If you are interested in bringing the NASP to your child's school, visit MyFWC.com/NASP for additional information. FW

The FWC

Celebrating a decade of successes

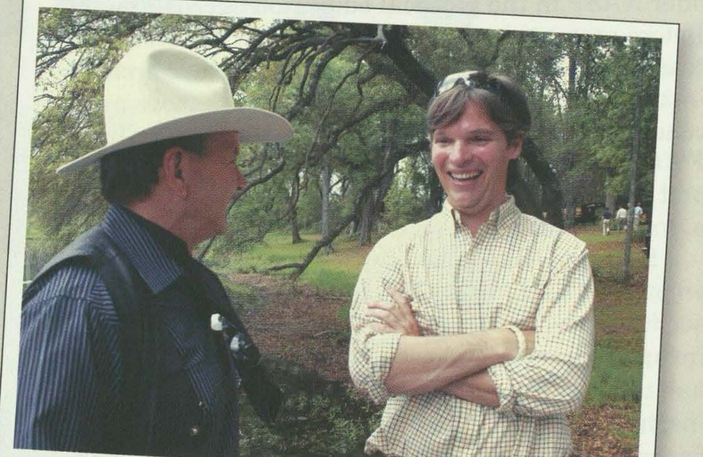
By Henry Cabbage

Ten years ago, Florida created a new conservation agency to take a 21st century approach to managing the state's wildlife and freshwater and marine resources. The Florida Fish and Wildlife Conservation Commission – the agency that publishes *Florida Wildlife* Magazine – celebrates a decade of successes.

Ken Haddad, who became the FWC's executive director in 2002, set out immediately to update the agency's structure. He directed FWC leaders to motivate and train employees to set new standards for efficiency, effectiveness and customer service.

"Subsequent restructuring of the agency's components helped coordinate and hone the FWC's operations," Haddad said. "Law enforcement officers who previously specialized in marine patrols or inland patrols cross-trained to work in both environments. Meanwhile, all the agency's research on wildlife and marine and aquatic life came together at the FWC's Fish and Wildlife Research Institute."

While research and law enforcement make up two pieces of the FWC puzzle,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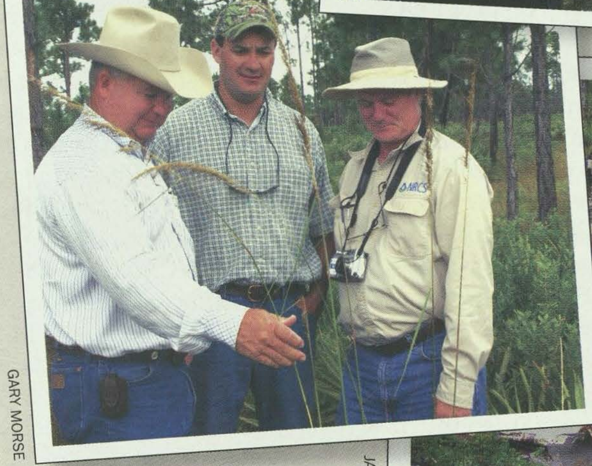
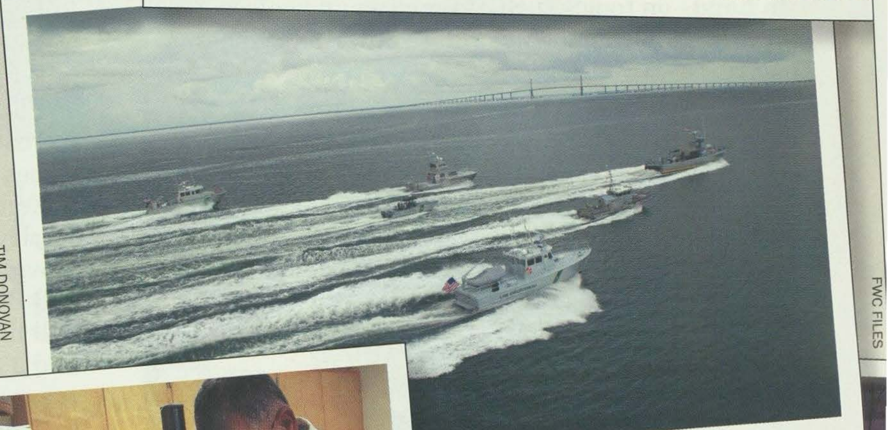

GARY MORSE

JAMES M. REED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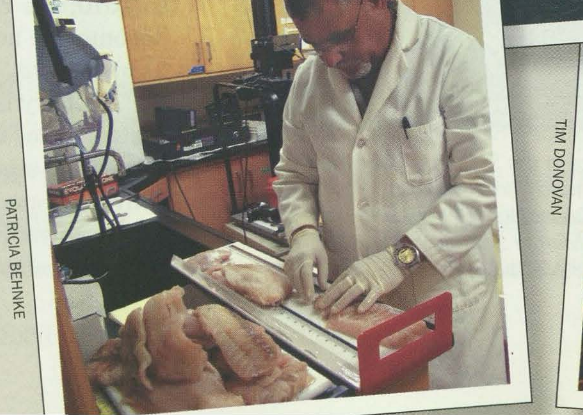
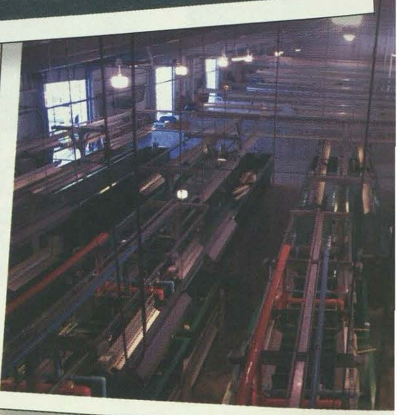

PATRICIA BEHNKE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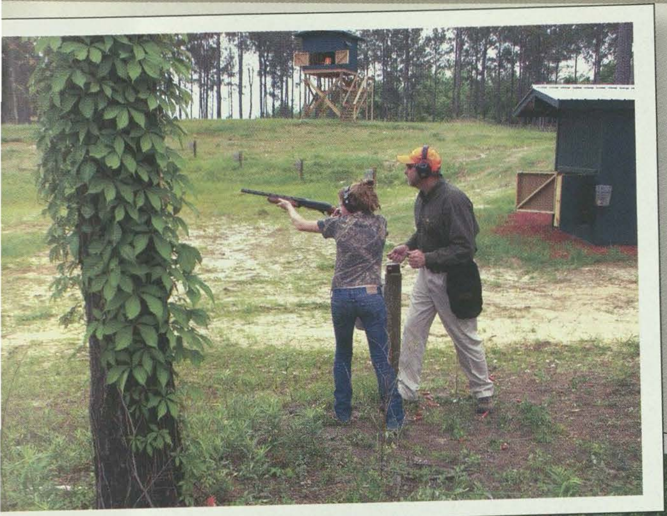
Top to bottom: *FWC partners include Beau Turner, who provided land for the Beau Turner Youth Conservation Center, talking with Commissioner Bergeron. Award-winning Longino Ranch, represented by manager Cliff Coddington, Longino grandnephew, John Minton and Jack Creighton, with the U.S. Department of Agriculture's Natural Resources Conservation Service, are part of the FWC's Landowner Assistance Program. Ridge Ranger volunteers work to preserve the Lake Wales Ridge. State-of-the-art technology and equipment help keep the agency in the forefront of natural resources management. Pictured are Division of Law Enforcement sea vessels; forensic scientist Hector Cruz-Lopez at the FWC's forensic lab; and the new Florida Bass Conservation Center.*

TIM DONOVAN

while working for a better tomorrow


TIM DONOVAN

FWC FILES

other functions, such as licensing and permitting, modernized the equipment and procedures to be more user-friendly. License and permit sales went online, creating a much more efficient process for the FWC and the public.

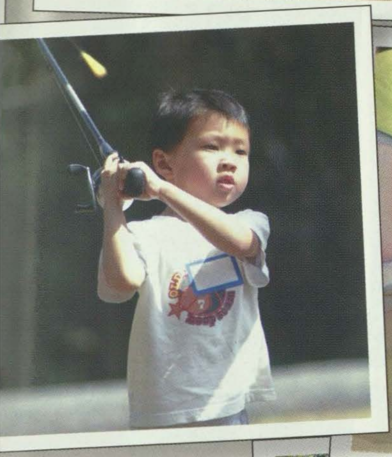
"The FWC reflects a bold new approach to conservation, applying renewed energy to search for solutions to issues that seemed bewildering for many years," FWC Chairman Rodney Barreto said. "One of the keys to success has been promoting a sense of stewardship among Florida's residents."

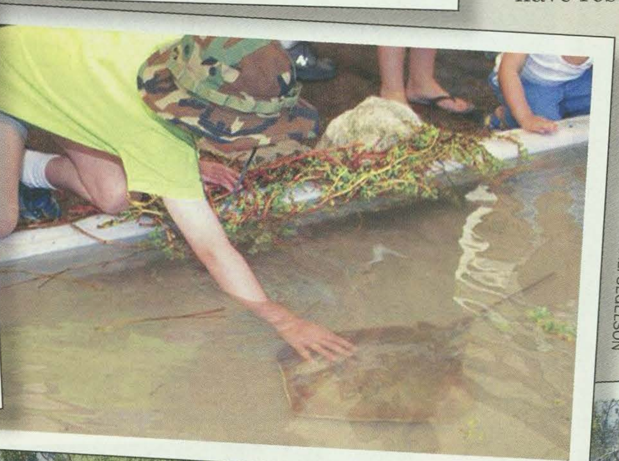
Continuing the effort to bring in partners, the FWC identified landowner incentives as critical to preserving Florida's rich array of wildlife and meeting recovery goals for many species. It formed new partnerships with landowners and other private and governmental organizations to assist in habitat management and enhancement programs.

To further cement the relationship of partners, the FWC created Florida's Wildlife Legacy Initiative in 2004. The initiative resulted in a broad network of partners to create a comprehensive strategy for wildlife and natural area conservation.

The FWC's management strategies have resulted in success stories for Florida's unique and diverse fish and wildlife.

"The FWC has completed new management plans to ensure red-cockaded woodpeckers, manatees, bald eagles and gopher tortoises receive adequate attention," Barreto said. "We were able to remove the bald eagle from the imperiled species list completely in 2008. Good things are happening."




CARLI SEGELSON

TIM DONOVAN

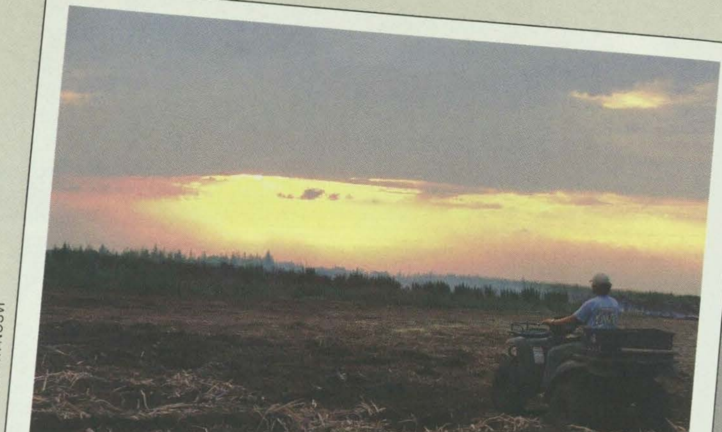
The FWC, along with its many partners, works to introduce the public, especially children, to the wonders of the outdoors. Programs include the Youth Hunter Education Challenge, Kid's Fishing Clinics and events such as FWRI's MarineQuest. Get Outdoors Florida! is the newest coalition of public and private partners coming together to safeguard outdoor recreational opportunities for future generations.

The FWC created a new section to step up management of nonnative fish and wildlife. The results include tighter regulation of potentially harmful species and eradication programs for three species that already are rampant in parts of Florida. In 2008, an invasive plant section joined the efforts of the FWC to control all invasive, nonnative species.

Freshwater fisheries are another area for which the agency has assembled a stakeholder support group and undertaken long-term monitoring and habitat-improvement projects. The new Florida Bass Conservation Center at Brooksville replaced the aging Richloam Fish Hatchery in 2007 with state-of-the-art facilities, where new research and production methods tripled bass, bream, catfish and feeder fish production. The Florida Freshwater Fishing Coalition is a spinoff from a three-year effort to gather stakeholder input.

The FWC's Division of Marine Fisheries has teamed up with stakeholders over the past three years to hammer out a list of priorities to sustain productive fisheries and reap the economic benefits these resources deliver in Florida. Other marine fisheries key accomplishments during the agency's first decade include deployment of 1,573 artificial reefs (including the decommissioned U.S.S. Oriskany near Pensacola), conducting Kids' Fishing Clinics for 35,537 participants and improving conservation measures for numerous species that require intense management.

The FWC's Youth Hunter Education Challenge, started in 2008, is the most comprehensive youth hunting program in North America. It involves advanced training for 12- to 18-year-olds who have completed a hunter safety course. Also, the Youth


JASON WALLER

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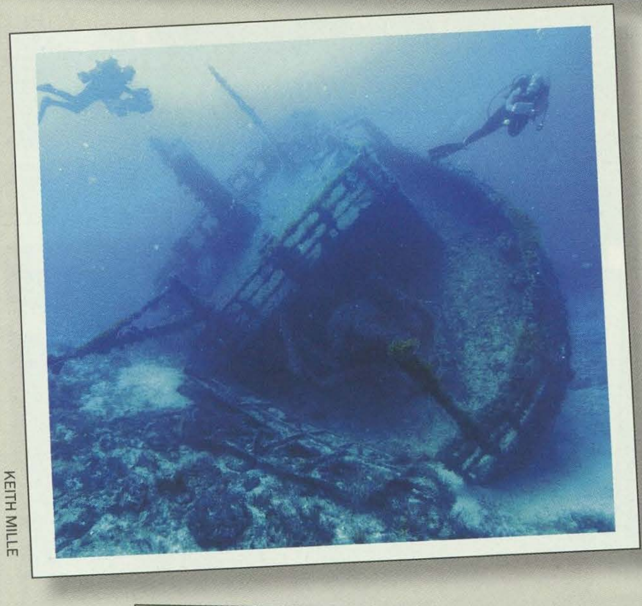
ROBIN BOUGHTON


KEITH MILLE

JOE DAVIS

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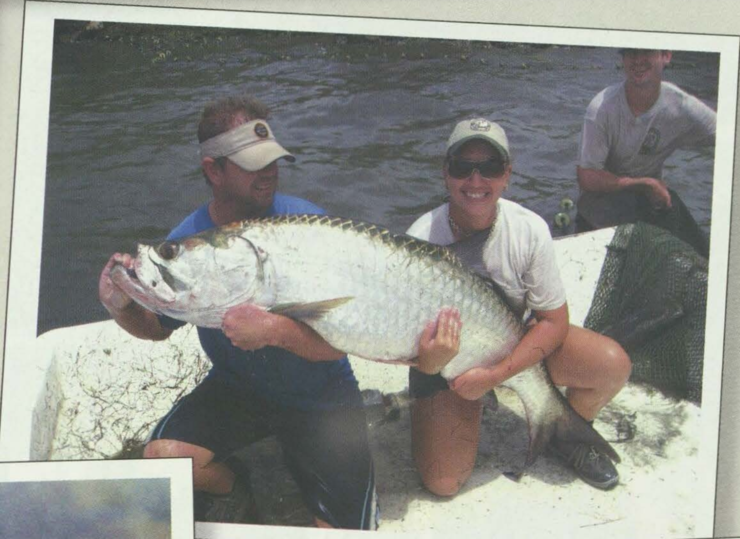
FWC employees work in all of Florida's habitats, whether on land or in the air, on or under water or even up a tree. They conduct research on Florida's plants, fish and wildlife and work to improve their natural habitats. They also strive to control nonnative species and rescue creatures in need.

JUSTIN HELLER



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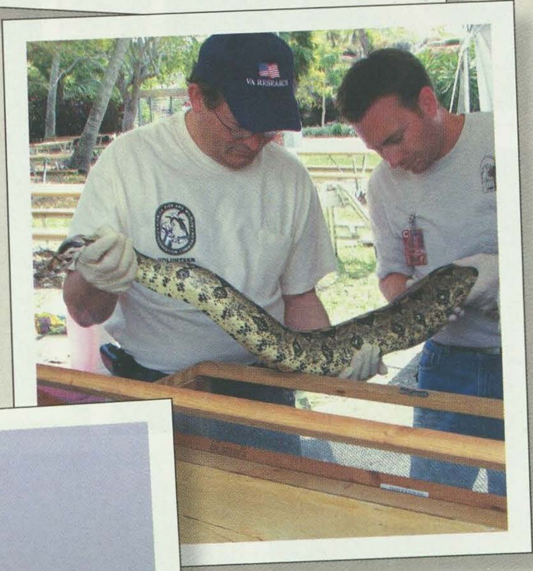

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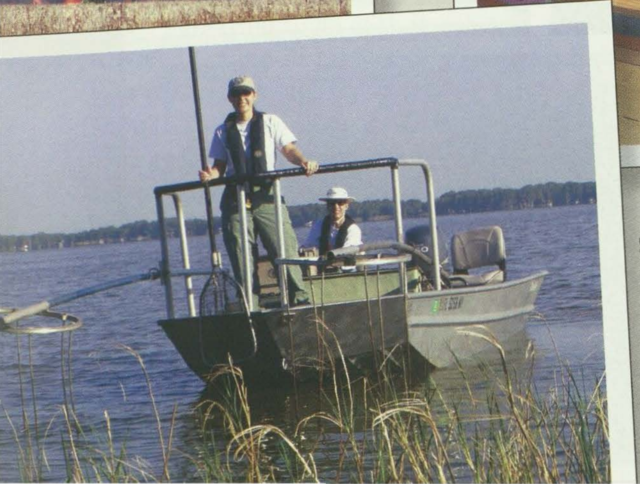


BOYD THOMPSON

Hunting Program of Florida treated 474 youths and parents to 32 sponsored hunts last year. The National Archery in the Schools Program has introduced 146,783 kids to archery and to the FWC since 2005, with help from the Department of Education. In addition, the Division of Hunting and Game Management provides a central place for hunting stakeholders to interact with the FWC.

Florida's conservation law enforcement officers find their jobs more demanding and complex than ever. Besides routine duties, the Division of Law Enforcement frequently mobilizes disaster response and domestic security missions, primarily because of FWC officers' specialized equipment and training. The division recently earned certification from the Commission for Florida Law Enforcement Accreditation. That accomplishment required FWC officers to measure up to the highest standards in their profession.

The FWC has partnered with other groups to launch Get Outdoors Florida! This coalition unites public and private partners to safeguard outdoor recreational opportunities for future generations.

During the past 10 years, Florida has blossomed into the No. 1 tourism destination for wildlife viewers, and the FWC's Office of Recreation Services has assisted more than 50 communities in harnessing the industry's economic potential. In addition, the agency has partnered with thousands of volunteers and created the Great Florida Birding Trail with 489 bird-watching sites that have attracted visitors from all over the world.

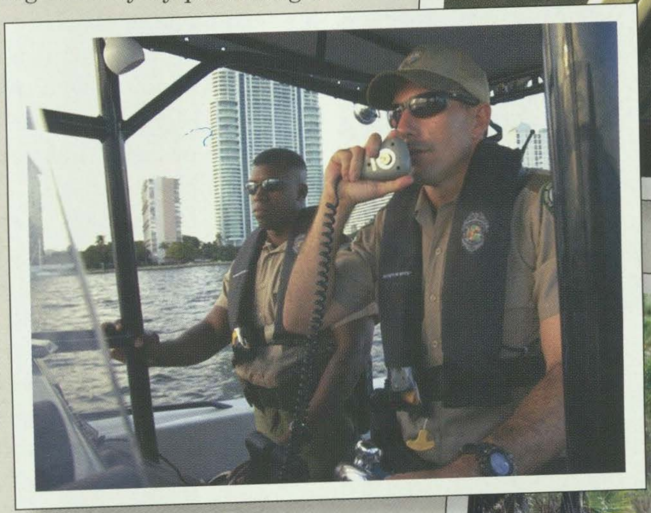
Scientific research guides the FWC decisions. The agency is in good hands with the Florida Fish and Wildlife Research Institute. Institute staff released more than 4 million red drum into Tampa Bay between 2000 and 2004 in a pilot program to study the effects of stocking hatchery-raised fish into the wild. The institute and the FWC's support foundation – the Wildlife Foundation of Florida – are three years into exploring a vision for a network of saltwater fish hatcheries in Florida and mapping out the long-term health of the state's sport fisheries with help from a group of partners. More than 550 published works over the past 10 years document the findings of institute staff. Its research regarding red tide earned admiration from the worldwide scientific community.

The future of Florida presents some challenges for the FWC as the population is expected to double in the next 50 years and climate change is impacting the state now. The FWC is leading the way by providing a model for other wildlife agencies across the country. The agency defined the challenges ahead in a 2008 report titled *Wildlife 2060: What's at stake for Florida?* In 2008, the FWC also hosted a summit, Florida Wildlife: On the front line of climate change, inviting the nation's top wildlife and climate change experts to gather together to address the challenges ahead.

The Wildlife Foundation of Florida has provided $6.225 million for nearly 200 FWC projects since 2005. It also provides emergency funding for the FWC to respond swiftly to unforeseen issues without diverting resources from other high-priority projects.

"When I look at all that's happened at the FWC over the past 10 years, I'm amazed at how all these parts work together," Barreto said. "And it happens in a team spirit that says, 'We have to be the best,' and we are." FW

TIM DONOVAN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BE AWARE
Boaters have been seriously injured from impacts with these jumping fish.
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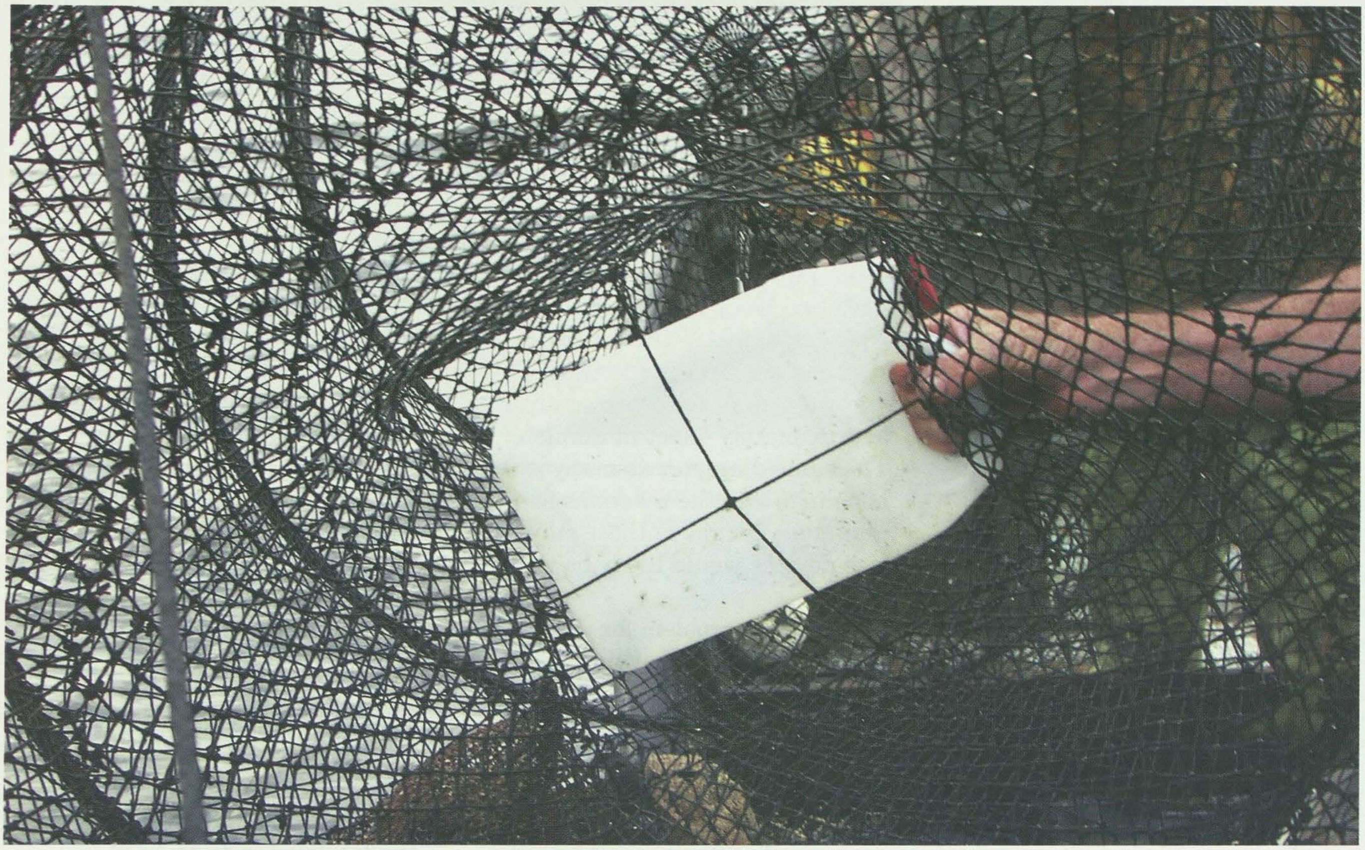
The FWC's Division of Law Enforcement recently earned certification from the Commission for Florida Law Enforcement Accreditation. Law enforcement officials patrol the sky, water and land with specialized training and equipment. They not only educate members of the public about the state's wildlife regulations, and enforce those rules, but also are called upon to rescue creatures in need and capture those that might pose a risk to the community.

The manatee cross



Two pieces of twine that help save manatees from drowning

Article and photographs by Bob Lee

It was hot and muggy, a typical July day, and I was staring at a bloated manatee wondering what I was supposed to do with it. Oh, it was dead, and I just knew it was rotting inside. The smell was enough to gag a maggot, and I also knew it was a stink I would never forget. The little manatee had been found by a fisherman, floating inside a hoop net near the mouth of the Ocklawaha River in Putnam County, and I was there to "recover" it. I wasn't sure exactly what I was supposed to do with it, so I poked at it with my oar trying to, well you know, get a feel for it. I got a feel for it all right! Like an overfed flatulent cow, it burst, spewing a gaseous funk of intestinal detritus on my nice clean uniform.

The year was 1979, and I was a fresh young officer with the then-Florida Game and Fresh Water Fish Commission. My beat was the St. Johns River in Putnam County, and I patrolled it with pride. Now, covered in dripping aquatic grasses softened by the fluids of extended decomposition, I could only imagine what my wife would think, when I opened the door and said, "Hi honey, I'm home."

What is a hoop net?

Hoop nets are gigantic barrel-shaped fish traps used to catch freshwater catfish. Up to 5 feet across and more than 14 feet long, they are fish-catching machines that can trap up to 200 pounds of catfish in a week's time.

The traps are designed with an outer sheath of webbing wrapped tightly around several fiberglass hoops. Each end is closed off, with one end having two funnels pointing inward. Fish swim into a wide first funnel, then push forward through the second funnel, which spreads apart as they pass through, and then closes up behind them, sealing off any avenue of escape. When in use, they are anchored to the river bottom – stretched tight between two lines attached to anchors made of steel rebar or concrete block. They are restricted to certain sections of the St. Johns River and require the operator to have a freshwater commercial fishing license.

Why can't a manatee escape from a hoop net?

The manatee I recovered was a 95-pound calf, small enough to wiggle through the opening of the net's first funnel. Once inside the net, it was unable to find its way back out and drowned.

This wasn't unusual, according to Ann Spellman, a marine biologist with the Florida Fish and Wildlife Conservation Commission in charge of the agency's entanglement research. She has recovered and documented many manatees, both dead and alive, from a variety of nets, lines and drainage pipes, where they often become entangled or entrapped.

"My colleagues and I," Spellman said, "have rescued several manatees from storm drain pipes. These experiences have taught us manatees will generally move in the direction they can see. At the entrance, many storm drain pipes are approximately 4 feet in diameter. The same diameter as many hoop nets and the reactions of manatees caught in these similar size devices would likely be the same.

Another problem for manatees is that they do not have an agile neck like we do. They basically have a head attached to shoulders, thereby restricting their ability to turn and look behind them and discover an escape route other than what is in front of them. The tendency is for them to move forward, which is the direction their tails propel them. In the case of hoop nets, this would eventually end with their drowning."

The problem

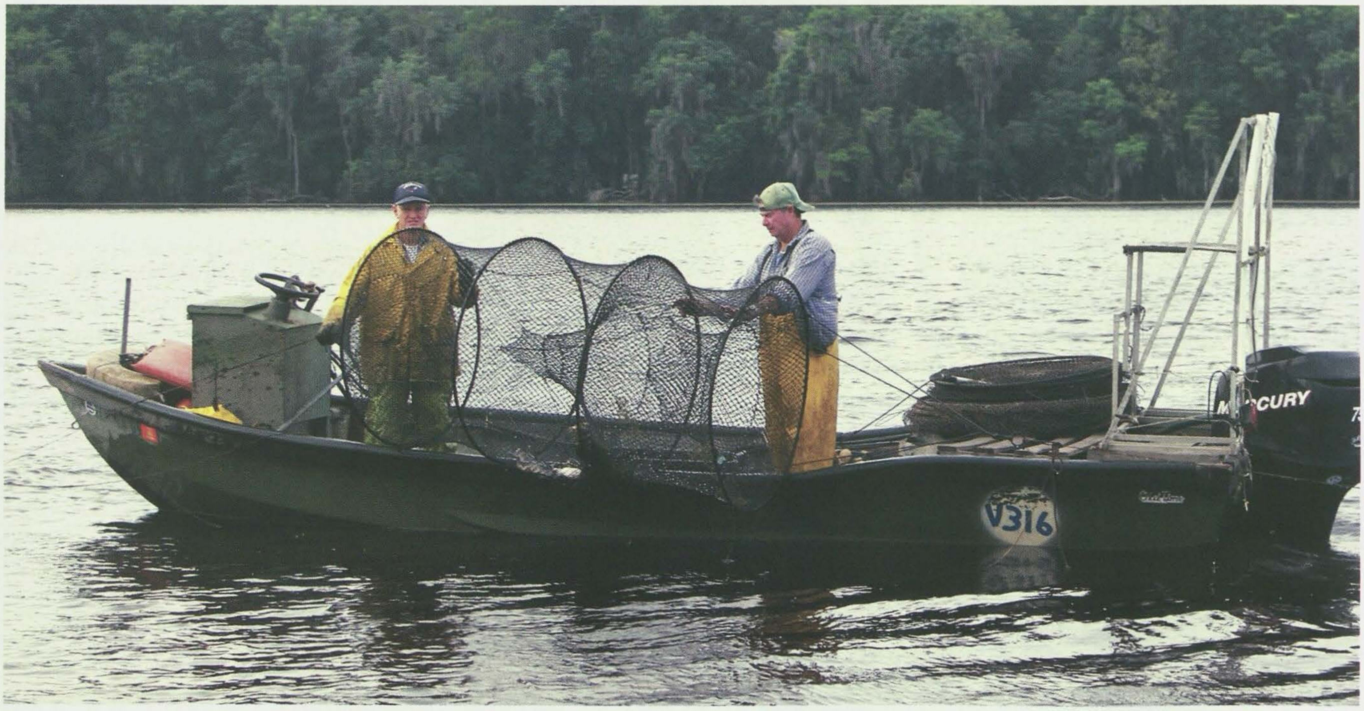
The baby manatee I'd recovered on that warm summer night was of special concern for biologists with the GFC and the U.S. Fish and Wildlife Service. Their first thoughts were, "What would prevent this from happening again?"

As one official remarked in a communiqué, "We may be seeing only the tip of the iceberg..."

The answer came sooner than they would have liked. A week later, a second manatee calf drowned in a hoop net in the same location as the first. It was now clear they were dealing with a serious problem. The logical solution was to block manatees from entering the net without deterring catfish.

The solution

For the answer, GFC staff went to Martin Dunson, then-executive director of the freshwater division of the Organized Fishermen of Florida, a nonprofit organization dedicated to promoting and



This page: *In the late 1970s, two manatees drowned after swimming into hoop nets fished in the St. Johns River. After the second manatee died, it became apparent this was a serious problem, one that needed to be solved quickly.* ***Facing page:*** *The solution was to install a simple twine cross in the front funnel of every hoop net. This now-mandatory cross has prevented any other manatees from drowning in this type of net.*

protecting Florida's commercial fishing industry.

Dunson was also a long-time resident and commercial hoop net fisherman in Putnam County. He knew the key would be to fashion a device to place inside the hoop net's front funnel that would discourage manatees and at the same time allow catfish to enter the net freely.

"I was worried," Dunson said, "A fellow from FWS told me that if we didn't come up with a way to solve this problem, they would consider outlawing the use of hoop nets altogether. A lot of fishermen, including myself, would have lost our livelihoods. Back then, fishing was the only way I knew how to make a living."

Dunson got together with Robbie Scholl, another local hoop net fisherman, to kick around some ideas.

"What," they asked themselves, "is the most practical method of keeping manatees from entering a hoop net's front funnel?"

They decided that whatever they came up with needed to be simple, effective and easy to install. Many of the fishermen were running a hundred or more nets at a time. So the easier it was to install; the better chance for compliance.

"What we came up with," Dunson said, "was to install a cross made from two pieces of No. 15 twine in the net's front funnel. We made one net up with the cross and showed it to the staff from the GFC and the FWS. They liked the idea. It was later implemented as a mandatory specification design for all hoop nets. To my knowledge, not a single manatee has been caught in a hoop net since."

Spellman agrees. "One of my responsibilities," she said, "is maintaining the FWC data base for all manatee deaths from entanglements. Our records show the only manatee fatalities due to hoop nets were in the year 1979."

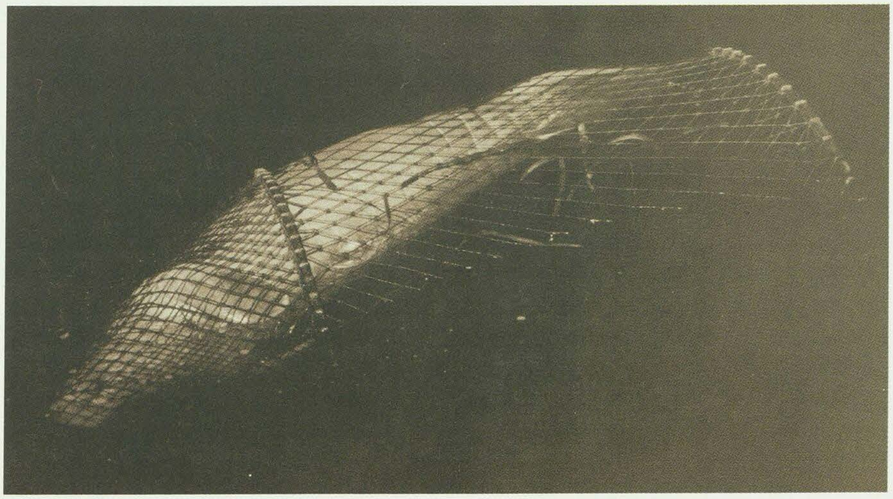
How the twine cross works

Spellman, who has wrestled hand to flipper with many a manatee to rescue them from underwater hazards, understands how the twine cross can be so effective.

"People may wonder," she said, "why just two pieces of twine can deter a 1,000-pound manatee from entering a hoop net. The reason is a manatee's snout has an array of whiskers that are very sensitive. The minute their face touches something they tend to pull back. In the case of the most recent drain pipe rescues, we used this approach to get the manatees to work themselves backward out of the pipes, until they were back safe in the river."

Wrapping it up

"The manatee cross," Spellman said, "is a good example of how, through creative and cooperative efforts, commercial fishing and manatees can coexist. I just wish we had as good a solution for other types of gear that manatees are still getting hung up in." FW



Switching on your hunting dog's instincts

By Mark S. Decker Corky ~ Photographs by Maggie Rosaine

Like children, puppies mature at their own pace. Labrador retrievers are a little different from most breeds, having a strong genetic predisposition for retrieving, which makes them an excellent hunting companion. Most people believe these water dogs are born to hunt waterfowl, which is true, but they can excel at upland gamebirds as well.

An ethical bird hunter tries to minimize leaving wounded or dead birds in the field. This is where a well-trained dog is essential. Some Labs will lock up on a point like an English setter, while others are purely flushing dogs. Each dog is different, but there are patterns we can establish in the dog's first six months that will create building blocks, and help guide the dog on the path of champions.

Sit, stay and come

If you can teach three basic commands (sit, stay and come) to your puppy, you can then take it into the field. These commands are the foundation you build on as your dog gets older. Start training as soon as you get your pup home. Remember, rewards work better than discipline on young pups, and make training sessions fun and short. A couple of minutes at a time are best at this age.

Use big hand gestures, repeating the one-word command. When the pup obeys, give it a treat and a scratch behind those beautiful ears while telling it what a good pup it is. This will make it want to please you during the next session.

All of my Labs were natural retrievers, and usually retrieving isn't something you need to "teach" them. Just throw a tennis ball and they'll bring it back, even as young as 10 or 12 weeks. When you can start adding sit, stay and come into a game of fetch, you reinforce the commands they will need later when they begin retrieving.

During its first six months, the pup mostly will rely on eyesight, but you can help it develop and use its strongest sense: smell. A game of hide-and-seek in the back yard is all it takes to awaken a new world to your pup. I like to pull an old sock over a plastic throwing dummy, add a few drops of commercial duck scent (Remington makes a good, cheap scent that works) and attach a duck wing with a couple of zip ties, which gets the pup used to feathers. Let the puppy mouth and smell the dummy, and then have it sit and stay. You may have to have someone hold the leash while repeating the stay command. Drag the dummy out of sight and hide it, come back to the pup and give a few more stay commands, then release the pup so it can seek the prize.

As the youngster gets better, make it more challenging by introducing a second dummy. This training will pay off once you are in the field.

Add a water element when the puppy is ready to swim – don't ever force or toss a puppy in the water. Water is to Labs what pizza is to teenagers! Take the dog to water with nice sandy bottom and a gradually deepening slope, so it can easily wade in. If you enter the water, your puppy will usually follow.

In the early '90s, on a warm, sunny Alaskan afternoon, I put a 10-week-old black lab named Daisy inside my jacket and took her down to a duck pond behind my house. I put Daisy down next to her mom, Magic, and waded out to adjust a few decoys. Within a few minutes, a small, black, furry head peaked out from behind a decoy I had just moved. The pup already was in her element.

When the puppy was born and where you live, contribute to when it takes its first swim. While you would not break ice to take a 10-week-old in the water, if you live in a warm climate or if it is summer, between 3 and 4 months is a good time to let your pup know why it has webbed feet.

Labradors require a lot of exercise, even at a young age, but the younger they are, the quicker they expend that energy, so let the outside temperature dictate what time of day you exercise your pup. In Florida, hot weather really affects puppies, so most time outdoors is spent early in mornings and late afternoon. In the air conditioning and on tile floors or in the water is where our pup wants to spend her time during the summer.

Hunting your puppy

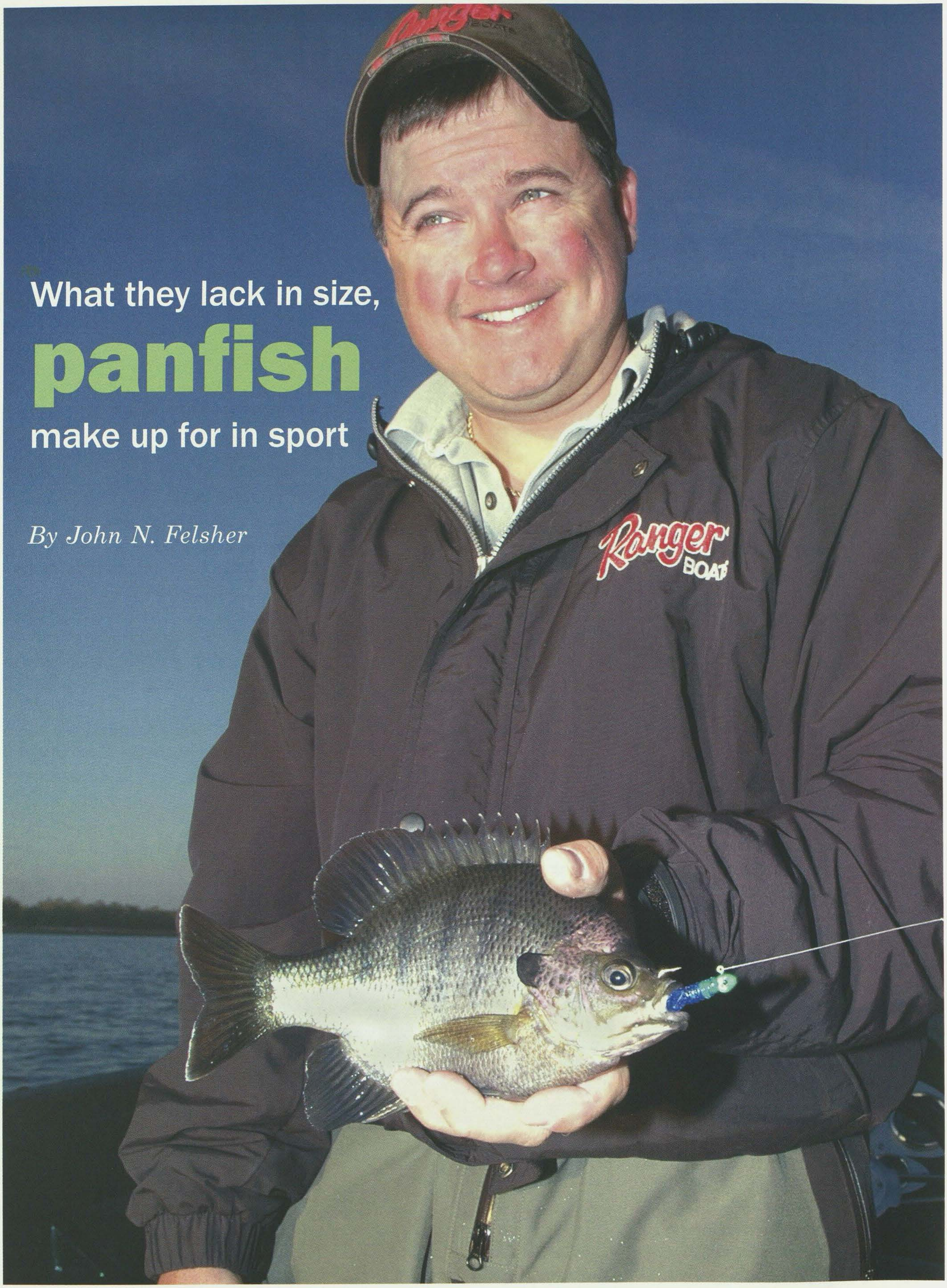
When do we start? When the season opens. It depends upon which month your puppy was born and when your local seasons open. Whether 4, 5 or 6 months of age, as long as it knows to obey the three commands, let your pup sit in a duck blind or walk up on some quail. Introduce it to the field in small doses, about a half hour of moderate activity is about right for pups less than 6 months, and monitor the puppy so it doesn't overdo it. As with all sports, the more days we practice, the better we become, which is the same for a puppy. If you take it out every day or at least every weekend, the better it will become, and the quicker it will learn.

Abby had just turned 6 months old when I took her on her first quail hunt in Chipley. For every half hour she spent chasing birds, she had a half an hour break rolling about in a mud puddle and feasting on treats. She found every bird I hit, and after each retrieve, the glow in her eyes was brighter.

After her first break, we walked to a section of thick cover, and Abby took about five steps into the underbrush and locked up solid. I only have had one other Lab that would point, and like a proud father watching his son score his first touchdown, I walked forward with a grin from ear to ear. We broke up a group of three birds and my Beretta rang out three times. I missed the third bird at about 30 yards, and Abby watched it fly off. She then trotted back and dropped the bird in her mouth at my feet, and we hunted up the second bird. After her third half-hour outing, she was done, with 14 birds for her first upland hunt. She slept the whole way home.

Take your puppy on as many non-hunting adventures as possible; they live to be with you regardless of the activity. The pup adds to your enjoyment while it builds a strong healthy body. Its first 6 months are important – creating a solid foundation not only impacts the kind of a hunting dog you will have, but the overall pet your puppy will become. They become adults so fast – the puppy stage usually lasts less than a year, so enjoy those days, and most of all, be a good teacher. FW

While Labradors are natural retrievers, some also may learn to point.



What they lack in size, panfish make up for in sport

By John N. Felsher

JOHN N. FELSHER

Even the most renowned professional and big-game anglers probably count a bluegill or other assorted sunfish among their first fish.

Most anglers start fishing with probably the oldest and still highly effective method of dangling a baited hook below a float. Simply toss the rig near some weeds, downed logs, dock pilings or over the edge of a drop-off and wait for nibbles. When a sunfish takes the bait, it either moves the float or takes it completely under.

When bluegills go deeper, some anglers fish with "slip bobbers," which slide up and down the line. Pulled by a weight near the hook, the line slips through the bobber until it reaches a commercial "bobber stopper," second split-shot sinker, piece of string tied to the line or other device to stop the float from sliding too far up the line. With a slip bobber, anglers can vertically fish in deep cover without going all the way to the bottom.

Other anglers prefer to fish directly on the bottom. Simply bait a hook and attach a sinker to the line. Toss it out and let it sink to the bottom. Then, watch the line or feel the rod for bites.

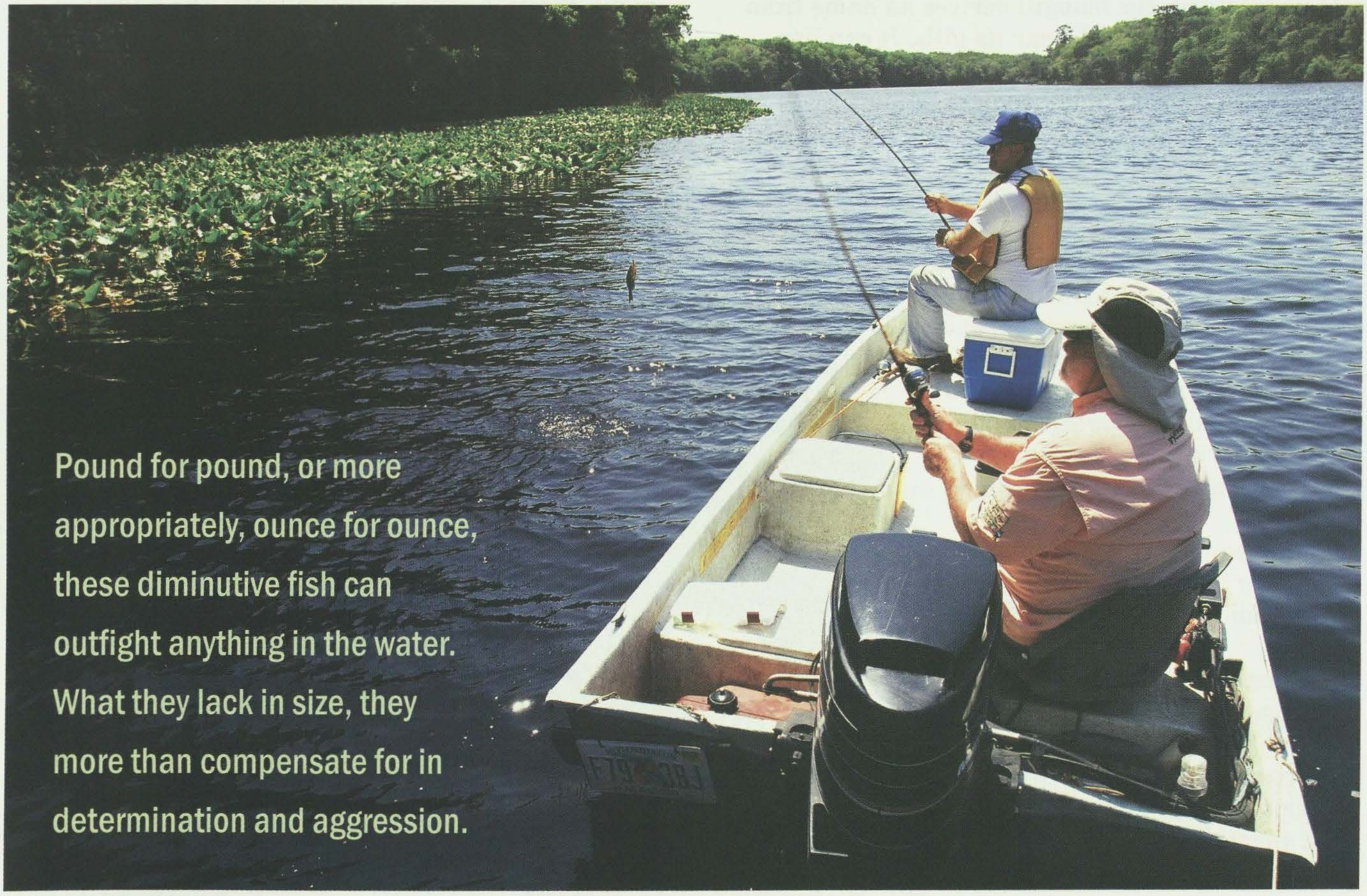
Panfish anglers use a variety of baits to entice their quarry. Not particularly finicky eaters, most panfish eat just about anything they can gobble with their tiny mouths. Insects comprise a major portion of their diet, so many anglers bait their hooks with crickets or grasshoppers, when they can catch them. Worms, small crawfish, minnows and grass shrimp also make great baits. In parks or places where people routinely feed panfish, bread makes a tempting morsel.

Some anglers prefer the challenge of outwitting panfish with lures. A beetle spinner would probably top the list of the most popular panfish lures. It typically consists of a single-bladed harness spinner attached to a jig head. On the jig head, anglers can put any number of soft-plastic creations with or without curly tails. Toss it to a likely spot and slowly retrieve it. Anglers also use a variety of tiny topwater or crankbaits that resemble miniature bass lures.

To target deeper bream, a simple jighead sweetened with a soft-plastic grub works great at times. Let it sink and drag it back toward the boat or hop it along the bottom. Some people tip their grubs with tiny scent pellets for extra flavor.

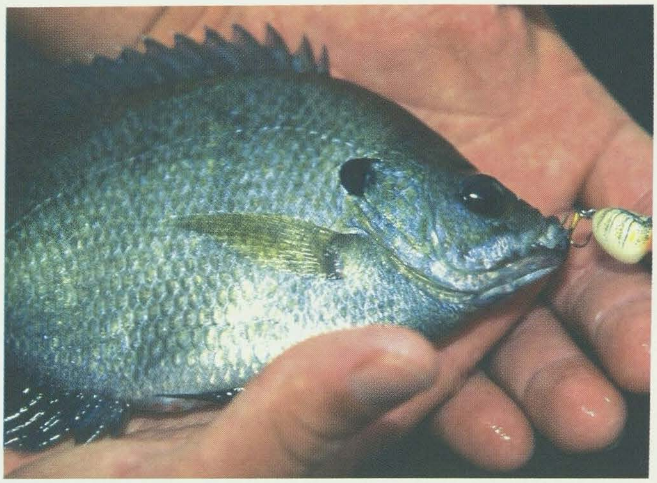
For the ultimate in panfish fun, try a fly rod. Bluegills and their cousins readily strike trout flies, streamers, nymphs or other creations, but small floating "popping bugs" make deadly artificial topwater enticements. These "bugs," made of cork

Below: *Anglers cast at spadderdock lilies on the Suwannee River. The lilies provide excellent cover and food for fish, including prized redbreast sunfish.* ***Facing page:*** *Steve Putnam, a professional crappie angler from Shelby, N.C., shows off a bluegill he caught while fishing in Lake Monroe near Sanford.*



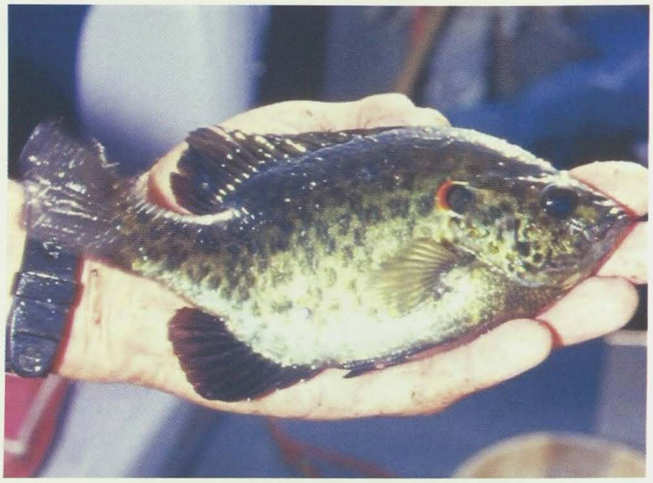
Pound for pound, or more appropriately, ounce for ounce, these diminutive fish can outfight anything in the water. What they lack in size, they more than compensate for in determination and aggression.

JOE RICHARD/SEAFAVORITES.COM



JOHN N. FELSHER

The bluegill is one of the most common panfish in Florida and gets its name from the navy-blue "ear flap" near its gills.



JOHN N. FELSHER

A redear sunfish, also called a shellcracker, looks like a bluegill but has reddish highlights on its "ear flaps."

or wood adorned with feathers and rubber "legs," come in many color combinations. Anglers may also use plastic or rubber creations that resemble tiny frogs, crickets, grasshoppers, dragonflies or other creatures. Pop these along the surface over a panfish bed and enjoy the action. Over a good bed, an angler may spend several hours catching fish without moving.

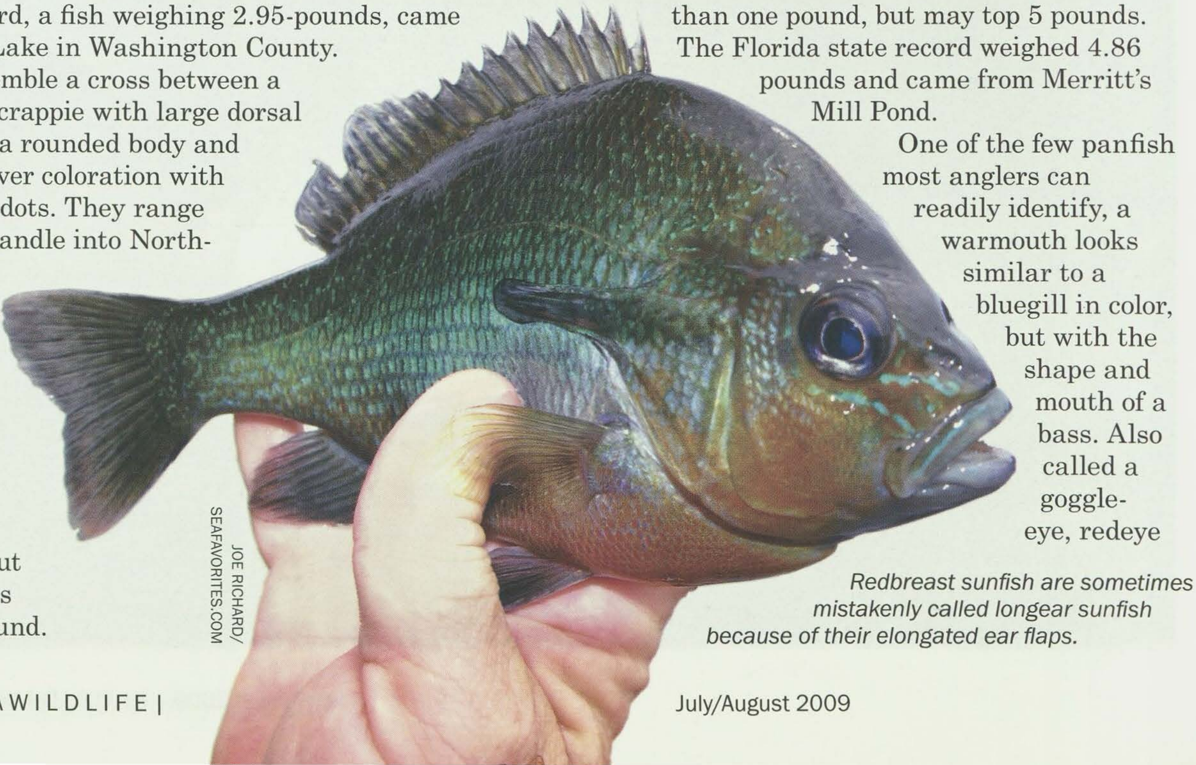
Most people just lump all assorted sunfish under the name of "perch," "bream" or a dozen or so other colloquial names, but Florida anglers can catch several distinct species. Among the most common and widespread, the bluegill derives its name from the navy-blue "ear flap" near its gills. It can live in practically any fresh system, but prefers quiet waters with considerable weedy or stumpy cover where it can hide. Good places to look for bluegill include slow rivers, farm and park ponds or lakes with adequate aquatic vegetation. A bluegill can weigh nearly five pounds, but few exceed one pound. The state record, a fish weighing 2.95-pounds, came from Crystal Lake in Washington County.

Fliers resemble a cross between a bluegill and a crappie with large dorsal and anal fins, a rounded body and greenish to silver coloration with rows of brown dots. They range from the Panhandle into North-central Florida, and prefer dark, acidic swamp and coastal streams. A flier can reach one pound occasionally, but most weigh less than half a pound.

A highly popular and beautiful species, a redbreast or redbelly sunfish glows with bright orange, yellow and olive over its distinctive red breast. Sometimes mistakenly called a longear bream because its narrow black "ear flap" might extend for an inch, this species ranges throughout Northern and Central Florida. Some top waters include the Oklawaha, Ochlockonee, Suwannee, Santa Fe, St. Marys, Econfina and Aucilla rivers or the Harris Chain of lakes. The world record, a 2.08-pound fish, came from the Suwannee River.

Also called a shellcracker because it eats so many snails, a redear sunfish looks like a lighter version of a bluegill, but with orange to red highlights on its "ear flaps." They range throughout Florida, especially the Everglades and can inhabit tidal marshes. A redear sunfish more commonly feeds on the bottom, while other bream species readily attack surface targets. One of the largest panfish species, it commonly weighs more than one pound, but may top 5 pounds. The Florida state record weighed 4.86 pounds and came from Merritt's Mill Pond.

One of the few panfish most anglers can readily identify, a warmouth looks similar to a bluegill in color, but with the shape and mouth of a bass. Also called a goggle-eye, redeye



JOE RICHARD/ SEAFAVORITES.COM

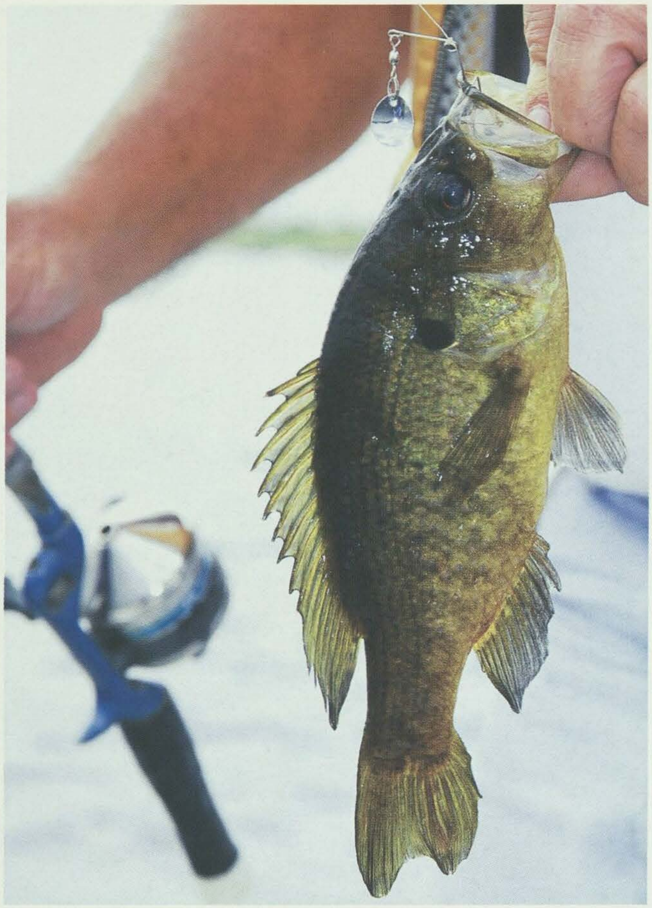
Redbreast sunfish are sometimes mistakenly called longear sunfish because of their elongated ear flaps.

or rock bass, these thick, dark fish with red eyes love swamps, shallow weedy lakes, sluggish streams and canals with thick vegetation and soft, muddy bottoms. With its large mouth, it frequently attacks spinnerbaits, plastic worms, crankbaits and other small bass baits. A warmouth may weigh more than two pounds, but few reach one pound. The state record, a 2.44-pound fish, came from Guess Lake off the Yellow River.

Pound for pound, or more appropriately, ounce for ounce, these diminutive fish can outfight anything in the water. What they lack in size, they more than compensate for in determination and aggression. When hooked, they make spirited runs, swim in circles and use their flattened bodies as leverage against the line.

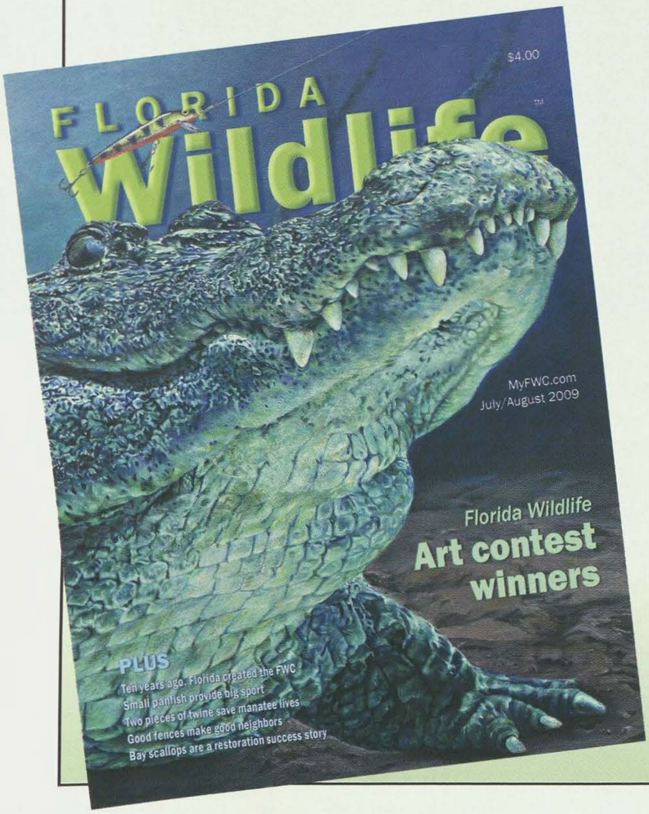
Just about every freshwater system in the state holds a good population of tasty panfish. Some better places to catch Florida sunfish include the St. Johns, Suwannee or Apalachicola river systems, the Kissimmee Chain of Lakes, the Harris Chain, Lake Apopka, Lake Newnan, Lake Istokpoga, Lake Okeechobee, Lake Talquin, Lake Wier, Lochloosa Lake, Lake Panasoffkee and the Tenoroc system. Many small ponds also offer exciting panfish action.FW

John N. Felsher is a full-time, award-winning freelance writer and photographer. He began writing professionally at 16 years of age and has published more than 1,200 articles for more than 90 magazines.



JOE RICHARD/SEAFAVORITES.COM

This feisty warmouth was caught on a beetle spin.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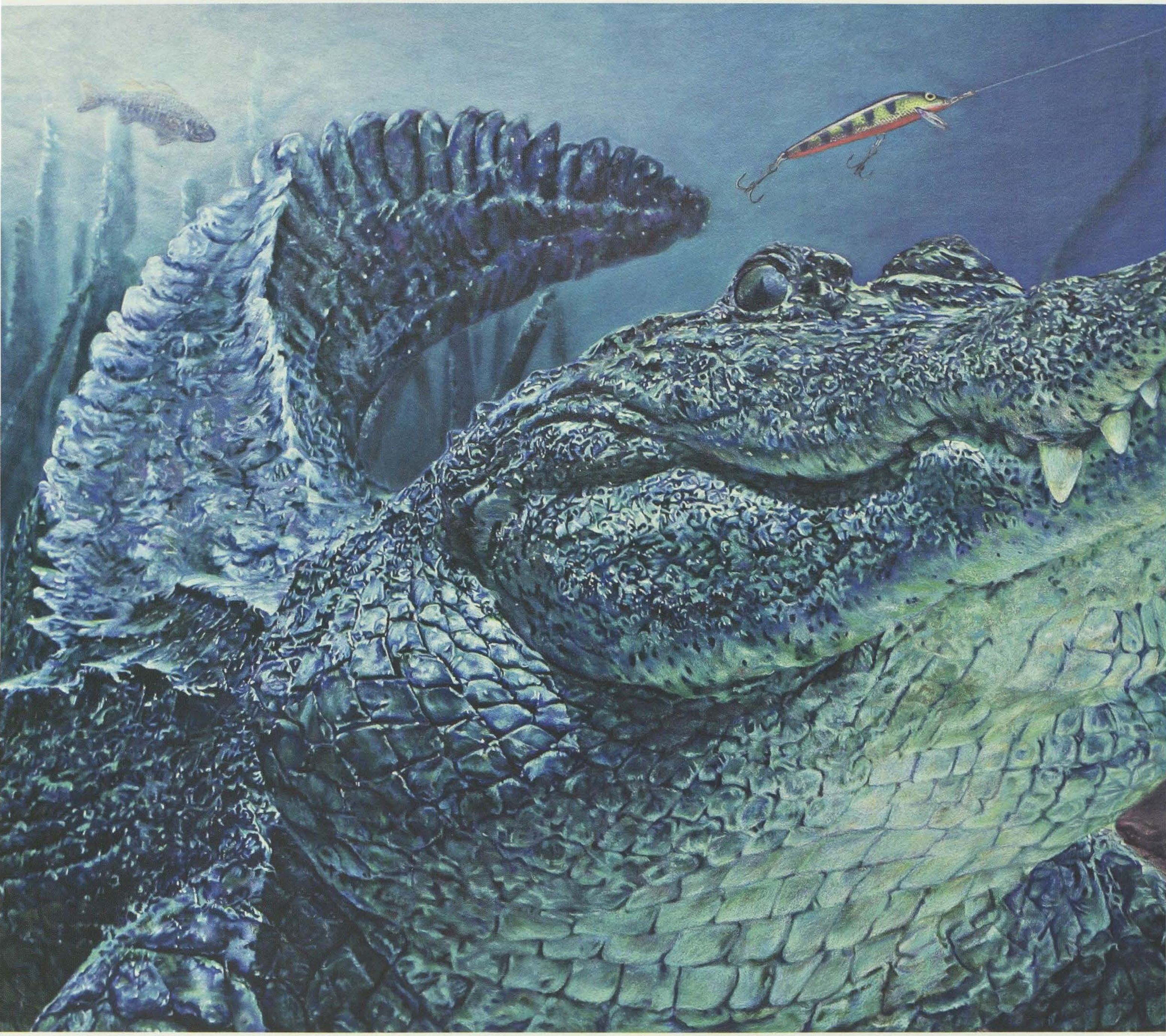


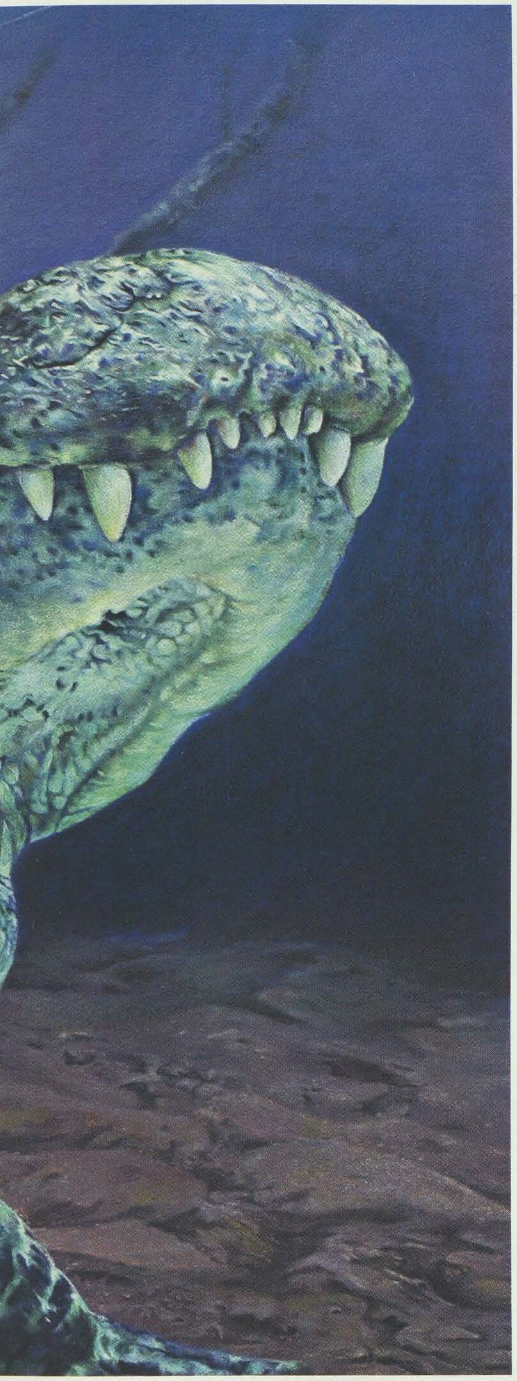
This year's *Florida Wildlife* art contest winner, Leslie Evans, hails from Temple, Texas. Her colored pencil rendering of an alligator eyeing a fishing lure is featured on this issue's cover and is being reproduced as signed and numbered prints, which will be used to raise funds for the Wildlife Foundation of Florida.

Second-place honors went to Holly Rutchey of West Palm Beach for her watercolor and gouache artwork of two scrub-jays. Third place was awarded to Hernie Van of Lutz for his acrylic-rendered hawk.

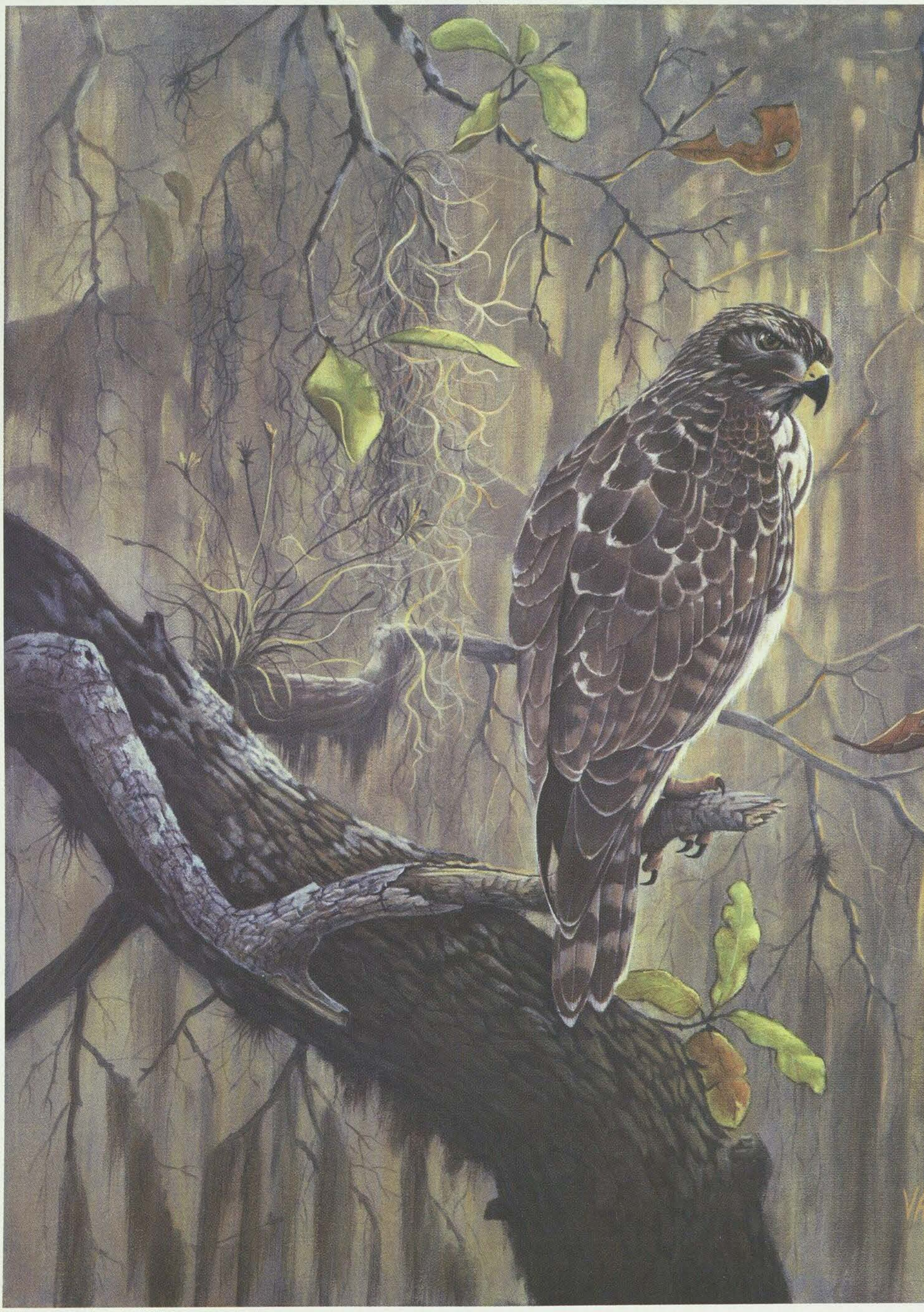
Three paintings, all acrylic, were awarded an Honorable Mention. Two were by the same artist. Peter Gerbert's "In Mom We Trust" shows a mother raccoon leading her young out of their nest for the first time and his "Three Birds and a Star" has a great egret, ruddy turnstone, sandpiper and a sea star in their coastal habitat. Gerbert lives in Dade City.

John R.L. Issacs XV of Tallahassee also was awarded an Honorable Mention for his painting of a purple gallinule.

Entries for *Florida Wildlife*'s 2010 Art Contest will be accepted through March 1, 2010. Rules and entry form are on the magazine's Web site, FloridaWildlifeMagazine.com. FW



2009
Florida Wildlife art contest winners

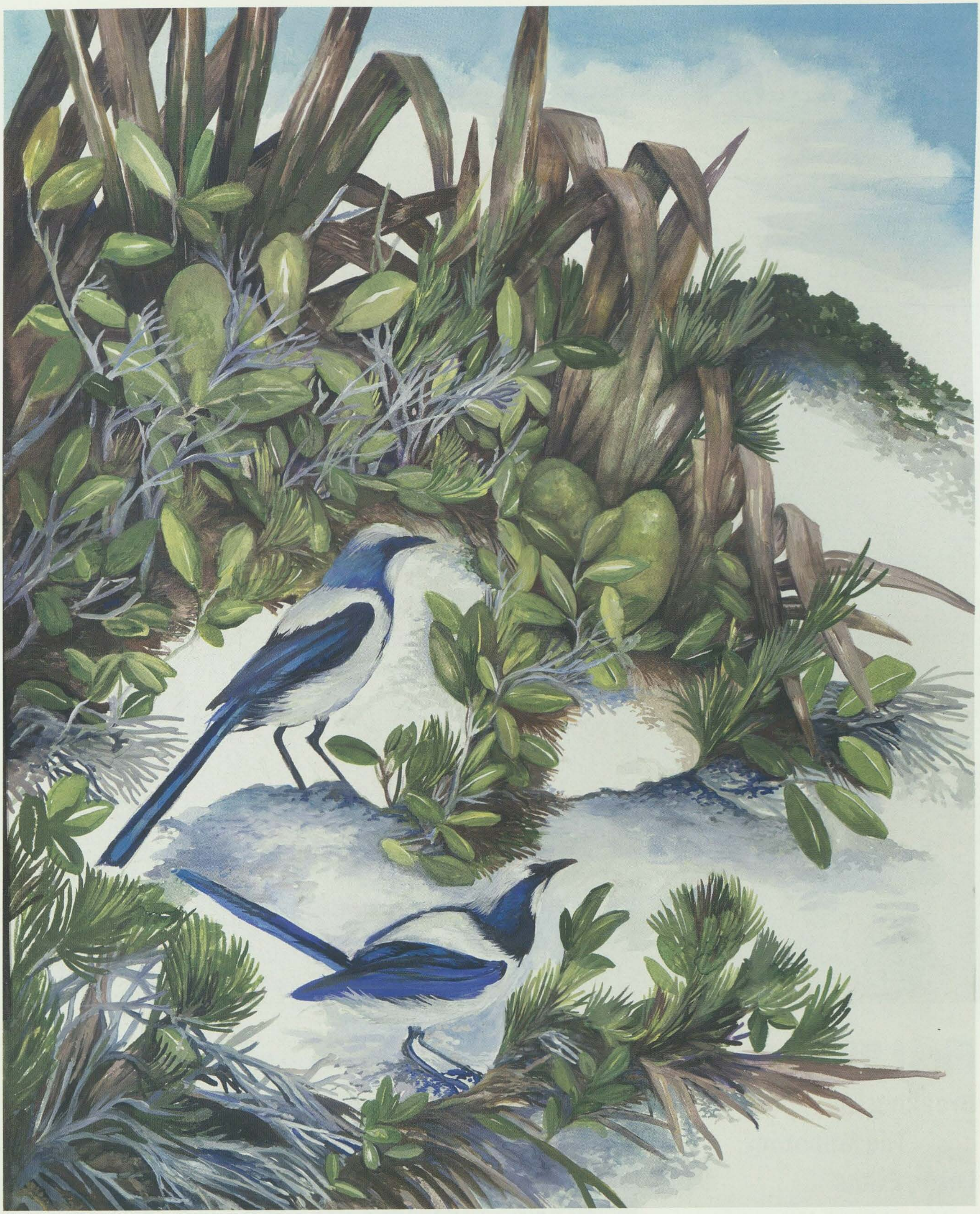


First Place

Breaking Up
The Monotony
Leslie Evans

Third Place

Morning Hunt
Hernie Vann



Second Place

Scrub-jays

Holly Rutchey

Honorable Mention

In Mom We Trust by Peter Gerbert

The Watchful One – Purple Gallinule by John R.L. Issacs XV

Three Birds and a Star by Peter Gerbert

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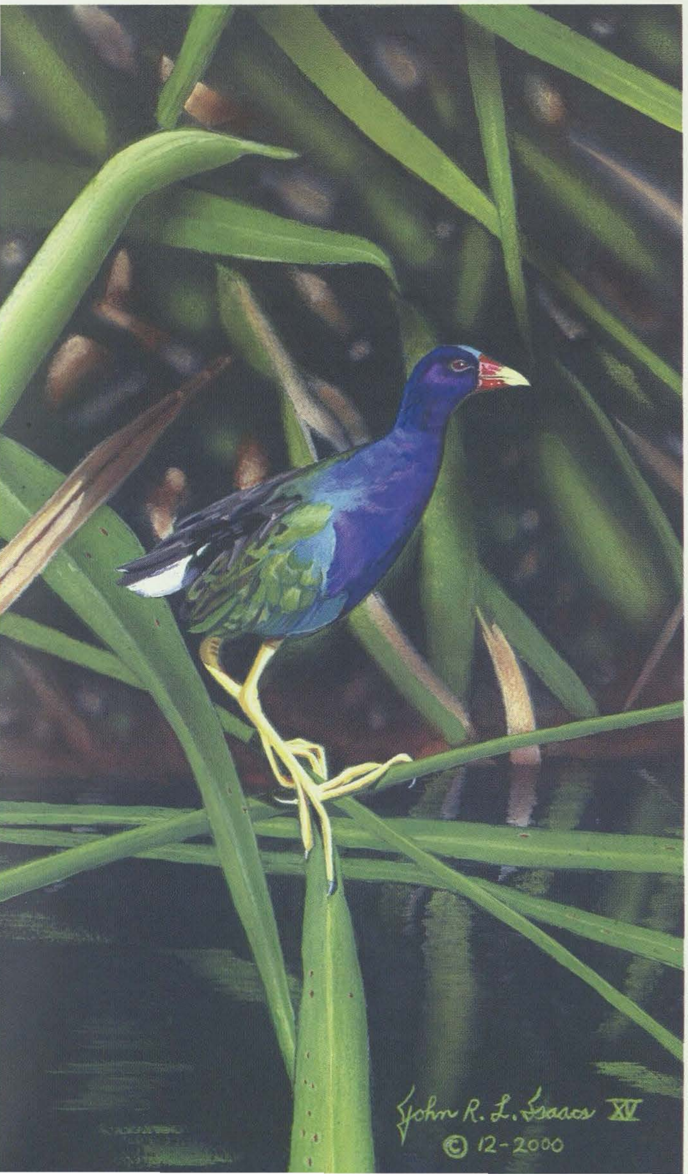
John R. L. Isaacs XV
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UF researchers in the midst of state's largest-ever soil carbon study

UNIVERSITY OF FLORIDA'S INSTITUTE OF FOOD AND AGRICULTURAL SCIENCES

Soil and water science graduate student Elena Azuaje uses an auger to collect soil samples in the Osceola National Forest. She was part of a team collecting soil samples for researchers to analyze as part of the state's largest-ever soil carbon study. When completed next year, the study could help Floridians venture into the carbon-credit market, a way for governments, farmers and landowners to earn money by storing carbon in soils, while helping reduce harmful greenhouse gases.

Three women hop into their truck to begin their workday, and almost immediately begin dishing the dirt.

No, really – actual dirt. Spodosols, Histosols, Ultisols, you name it, they've dug them up, labeled them and ferried them back to their lab at the University of Florida's Institute of Food and Agricultural Sciences, where they're being analyzed for associate professor Sabine Grunwald as part of the state's largest-ever soil-carbon study.

When completed next year, the study could help Florida venture into the carbon-credit market, a way for governments, farmers and landowners to earn money while helping reduce greenhouse gases by storing carbon in soils.

Grunwald's study, a USDA-funded, three-year core project of the North American Carbon Program, is nothing if not audacious: The soil and water science expert has charged her team with collecting a total of 1,000 soil samples from just about every conceivable type of land in Florida.

Their goal is to create a comprehensive soil carbon inventory for the state, and be able to predict – based on factors such as land use, hydrology and topography – how much carbon can be stored in the ground.

While it's already established that Florida has more soil carbon than any other state, officials here haven't yet taken advantage of that by jumping into carbon-credit markets.

Carbon-credit markets seek to mitigate global warming by allowing the market to assign a dollar value to measurable reductions of harmful greenhouse gases and allowing "credits" for such reductions to be bought and sold. In some cases, farm land would need to be left untilled for several seasons to allow carbon to be stored.

Those markets are far more active in Europe than the U.S., though many expect such markets here to become more viable and lucrative in the not-too-distant future.

But what landowners and those who make decisions about land use need to know before taking the plunge is how much carbon is stored in different types of soil.

"What we really need first is accurate data," Grunwald said. "And what we researchers can contribute is knowledge about how carbon is sequestered."

A study Grunwald and her team conducted from 2005 until 2008 looked at soil carbon levels in the Santa Fe River watershed and allowed researchers to become adept at using soil spectroscopy, a cost-effective method that allows them to quickly make soil property inferences.

During that study, she said, it occurred to researchers that expanding their scope from the eight-county watershed to a statewide project only made sense.

"We just said, 'let's do it for the whole state,'" she said.

Bags full of soil samples and paper grocery sacks full of "litter" – things like dried grass and decomposed leaves the women scrape off the top of the earth right near where they auger the dirt samples, are starting to be analyzed.

Grunwald said she hopes the soil and litter analyses will be complete by late fall.

The project's conclusion marks the end of months of grueling work by field team leader Aja Stoppe and helpers Lisa Stanley and Elena Azuaje, who have traversed thousands of miles across Florida, through swamp, pine forests, farm land, pastures and muck.

Their stories of weird looks from strangers and being covered in grime from ear to elbow are entertaining – like the time Stoppe stepped out onto what she thought was solid ground only to plunge into waist-deep water.

Driving back to Gainesville after a day spent collecting samples in the Osceola National Forest, they rehash exploits and marvel at the kindness of strangers.

And there, Stoppe points out a critical difference in having an all-female crew.

"We always send thank you cards to the people who helped us," she said.

Other members of the team included graduate students Gustavo Vasques and Jongsung Kim, postdoctoral researchers Brent Myers and Deoyani Sarkhot, and UF faculty members Nick Comerford, Willie Harris and Greg Bruland. FW

My old man and the sea

By Steven LaBree ~ Illustrations by John Papesca

I fall asleep while lying in bed, my book open on my chest. My assignment, due Monday, is to report on Hemingway's *The Old Man and the Sea*. My father's no-nonsense baritone voice jolts me from my dreams of little Manual — Manolin, as the old man calls him — and how he watches out for the old man, how he cares for him when no one else does.

"Grab the gear, and let's move," Dad says. "We're going to be late."

My father is an old man, and today he will take us fishing.

Still sleeping, my little brother receives a ceremonial punch in the arm.

"Dad's not gonna wait," I say.

Rob yawns, stretches and rolls out of bed.

Steam from hot water curls up from the basin as my father glides a razor over his chin. My brother edges between him and the sink, scrapes the edge of a spoon on his face as if shaving; his cheeks covered with lather. The light of dawn is at least two hours away.

We ride in the backseat of our station wagon, dig into a box of Cheerios and stuff our faces with dry cereal. With a full belly, Rob falls asleep. I lean over the front seat and talk with my dad.

The conversation is short and to the point, as my father is a man of few words. We will camp near a small fishing village on the West Coast, and prepare our own meals, he says, like great hunters of the past. He reminds me not all things come with the flick of a burner on a stove or the convenience of refrigeration. He explains that we need to know how to survive in the wild. We've brought nothing but water, charcoal and matches.

I lay back against the seat, my face toward the window as the morning sun flickers through tree branches and onto my closed eyes. The light flitters orange to black and back again. I am thankful we won't have to rub sticks for fire, although I am not so sure a lesson won't be forthcoming.

My mind drifts to thoughts of open spaces and the freedom to stretch my arms without bumping into anyone. I imagine the feel of a tight line, the bend of my fishing rod under crystal blue skies, the wind in my face. This weekend we camp along the Chatham River. We will stalk our prey with weapons of monofilament and hooks, and we will cook over an open flame. This weekend we will be hunters.

We arrive and I see my father's friend, John Miller, ease his boat into the dark water. I sit on the edge of my seat as we park. Dad runs over to help, and I nudge my still-sleeping brother. He mumbles and rolls out of the door. We unload the fishing equipment as a boy approaches and waves. He grabs the tackle box, and walks away.

"Name's Sam," he says, over his shoulder.

"I'm Jimmy, and this is my brother Rob," I reply.

With the boat in the water and tied to the dock, Dad and I walk to the office to register.

A small wrinkled man sits behind an enormous desk with a nameplate reading "M. Perez, Dock Master." There are maps of the backcountry and pictures of fishermen – the hunters – their prey held forward.

"Good morning," Dad says.

"Buenos Dias," Mr. Perez replies. "What can I do for you?"

It sounds like one word – wacanadofurju – but my father understands him perfectly. He says, "Tell him where we are going, Jimmy."

I say, "We're going to camp on the river and catch fish."

"No problema," he says. "See you Sunday."

Our old Mercury motor putters, leaving a blue haze blending with the morning fog resting on black waters. Mr. Miller navigates into the channel, across Chokoloskee Bay. Salted air touches our faces, and I lick my lips, as the motor revs to a fine-tuned hum.

We snake through a tea-colored waterway lined with mangroves. We stop at a river fork, and the water ripples through the tentacles of mangrove roots.

"Grab your rods and let's catch dinner," Dad says.

We move to the stern. The men take their place on the bow. Soon, Dad's fishing rod doubles over and the whoopin' and hollerin' begins — that's what we do when hooking a fish. After a five-minute fight, the writhing throng of silver scales is brought to the boat.

"What is it?" Rob asks.

"It's a fish, moron," Sam says.

"I know that, stupid," Rob shoots back. "I mean what kind of fish."

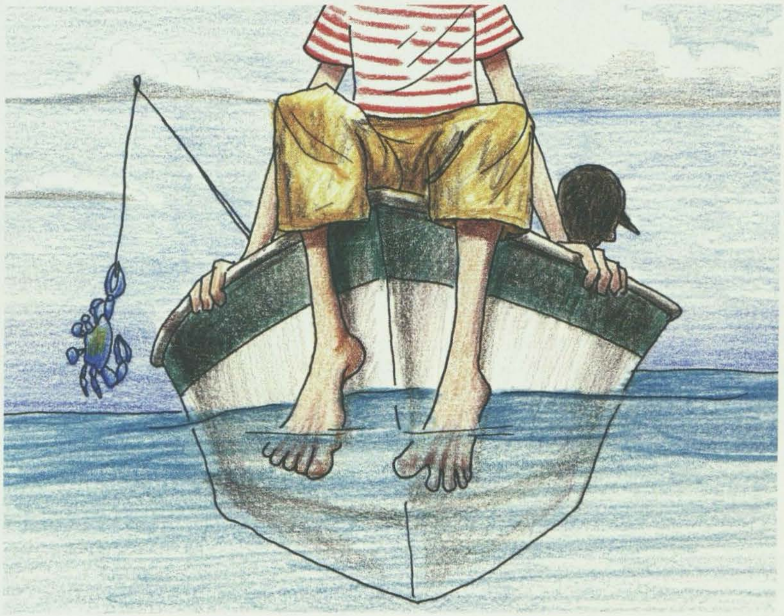
Dad releases it back into the water.

"Hey, what was that about?" I ask.

"Ladyfish," he says. "Ain't good for nothing but catching."

After an hour of fishing, and about 30 more ladyfish, Dad says, "Let's head toward camp."

We stow the gear, and Mr. Miller turns the ignition key. The motor sputters to life in a cloud of blue smoke. With turn after turn through the river, it seems we spend our time leaning one way or the other, but soon the boat motor falls silent and we drift.



Mr. Miller is the first to cast, and the first to catch another ladyfish. We fish off the stern again, and after a few minutes, Rob pulls in a blue crab. We laugh, and focus on the water for snapper or grouper, because no respectable angler would choose to catch a crab on a fishing rod. Dad's fishing rod bends, and again, a ladyfish. Rob catches another crab, and another.

"Dad. Are we going to catch anything but crabs?" I ask.

"Look on the bright side," he says. "If we catch nothing but crabs, we'll have plenty to eat at the rate you boys are going."

Rob lands about a dozen of the clacking decapods. They release the hook, fall to the floor of the boat and raise their claws in defiance as if they stood a chance with the great hunters standing before them. Sam and I flip them into the cooler. I return to angling and feel a light tug on my line. I am happy for a moment until I realize it's a crab. Sam catches a crab. Dad and Mr. Miller continue their luck with the ladies. We fish several other spots as the sun crowns, and we fill two large coolers with crabs.

Mr. Miller says, "Let's head for the cabin."

"Looks like crab for dinner," Dad says.

We push deeper into the mangrove jungle. I watch the low-lying blue smoke from the puttering motor drift into the mangrove forest, the boat's wake causing small fish to scatter and large black birds rest on branches. They watch us as we pass.

We arrive at a one-room shanty perched on stilts nearly 3 feet above the water with a long dock running across the front. The river is our front yard, the back is mangrove. On one end of the dock sits a small structure with a slanted roof.

"What's that?" I ask.

"The toilet," Dad says.

I look at the boys with raised brow, and ask, "The what?"

Their faces reflect my alarm.

Dad looks to Mr. Miller, and they laugh. "Toilet, outhouse. You gotta go, you go in there."

Curious boys, we clamber from the boat to check our new-found treasure.

"Open the door," Rob says.

"You open the door," Sam answers.

I open the door, and we peer through a hole cut through a bench platform.

"I guess that's where you go," I say, as we all look through the hole, getting a view of greenish water below and a couple of snapper.

"There's the fish we been looking for," Rob says.

Nowadays we wouldn't think of releasing raw sewage into the rivers or bays, but back then...

The cabin is a square room with beds hanging from the walls, bare floors, a table with six chairs and open cabinets with canned goods. A previous hunter has fashioned a cooker at the other end of the dock, and Mr. Miller fills a large pot with the fresh water we brought along. The water boils; we toss in crabs and soon, we sit on the edge of the dock enjoying dinner.

At dawn, we set off to another fishing spot, and Mr. Miller decides the outside waters will hold more luck. We pilot through the river and into the bay. We stop and fish. We move several more times, each time farther from shore, and the land looks like small green hills in the distance. Mr. Miller turns the key again, and the old motor gives nothing more than a grunt. Dad looks back at Mr. Miller, and then to us, and then back to Mr. Miller.

"That doesn't sound good."

"Nope. Sure doesn't," Mr. Miller says.

They step to the stern and pull the cover off the motor, tap a few things and try again, and receive another grunt from the motor.

"It's not the battery," Mr. Miller says.

My father examines the motor. "Yeah. Looks like the lower unit's jammed."

We have one small paddle and can't find the anchor. My father leans over the bow and tries to paddle, but the wind and current push us in the opposite direction. Our only choice is to continue to fish and keep a look out for other boaters. As time passes, so does a boat in the distance. Mr. Miller discharges a hand-held horn, but they are too far away.

I am thinking if kismet provides fortune under this cloudless cobalt blue sky, the light southern breeze will push us across the Gulf toward the Keys. If fate decides to test us, we could drift into the Straits toward Cuba. The thought intrigues me as I gaze across the bay, and I think of Hemingway's Santiago. I pray for our own Manolin to watch over us. My father watches the horizon, and I look to him for answers. I worry and wonder about our circumstance, and I recall a line from the story I've been reading, "Everything about him was old except his eyes, and they were the same color as the sea and were cheerful and undefeated." And I remember, Santiago did not surrender. He did not lose his faith. I feel safe.

As the sun becomes a quarter-circle of orange on the horizon, our backs sting with the memory of the day. We prepare makeshift beds, not knowing what the darkness of the bay will bring, and I long for the comfort of our primitive cabin. I pray. As I raise my head, my father raises his, and he cocks his ear to the distance.

Mr. Miller sits up. "Hear something?"

Dad places his finger to his lips, and then points to the horizon.

In the distance, a spot moves toward us. We stand and wave our arms, and there is a blue flash of light.

The hum of a boat motor becomes louder as it approaches. The dock master points, then tosses a rope to our bow.

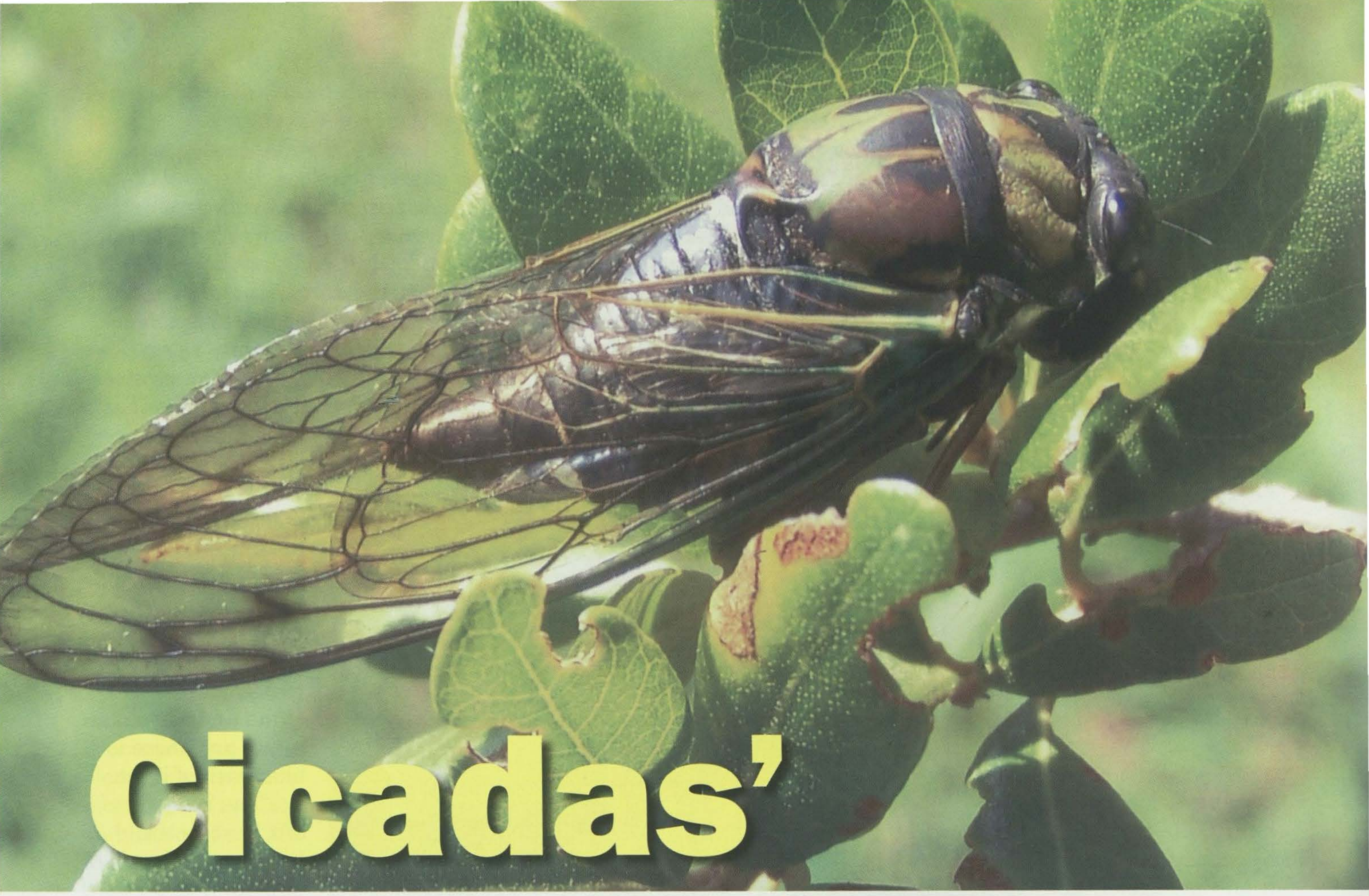
"How'd you know where to find us?" Mr. Miller asks.

Mr. Perez points to my father and says, "He say to me where you go, and it was getting late. I call the ranger and figure – don't know why – you head out to the bay."

We arrive on dry land, fishless and tired, nothing to show of our great hunt. I think of how my father had always taught us to have faith and to believe there is a higher power watching over us. With a long weekend behind us, we climb into our car, and I watch Mr. Perez as he walks toward us.

"Thanks again, Señor Perez," Dad says.

"My pleasure, sir," he says, and he looks at me, "but around here, everyone calls me Manny." FW



Cicadas' songs of summer

Article and photographs by Lazaro Aleman

Step outdoors on a bright summer day, and if it's otherwise quiet, the sound you most likely hear is the noisy buzzing of cicadas in the surrounding treetops. The hotter the day, the louder is the song of these stout, sun-loving insects with large, shiny eyes and clear, dark-veined wings. Indeed, cicadas are supposed to be so sensitive to sunlight that it's said they will stop singing if so much as a cloud passes the sun. Rain, of course, will quell their song, and cool weather is generally their death knell.

Normally, we are apt to pay little or no attention to the singing, which is so integral a part of summer that it serves as backdrop to our more engaging thoughts, activities and endeavors. But listen closely, and the somnambulant song will lull and mesmerize with its rhythmic, undulating cadence.

A pulsating zit-zit-zit-zit-zit starts slowly and builds steadily to a fast-paced, loud and sustained crescendo. The sound then subsides lengthily, like air hissing from a tire, before starting anew somewhere else, singly or in chorus. Yet, it's rare to catch sight of these elusive insects, with the exception of discarded nymphal casings left clinging to tree trunks, fence posts and the like when they emerge from underground, or the lifeless bodies sometimes found on the ground in the fall.

Early North American settlers supposedly viewed cicadas as a type of locust, because of the mass emergences of certain species every 13 or 17 years. In fact, cicadas are rather benign and don't bite, sting or cause crop losses. Add to this their interesting life cycle, close association with summer, and symbolic and culinary attributes in some cultures, and cicadas invite investigation. Entomological interest aside, cicadas have fascinated mankind since antiquity.

J.G. Meyers, in his 1929 book *Insect Singers, a Natural History of the Cicadas*, wrote that the early Greeks found the cicadas' song so compelling they kept the insects in reed cages for the sake of hearing them sing, much as people nowadays keep canaries, and that Homer, Aristotle, Socrates and Plato found them worthy of observation and recording. In general, the Greeks viewed cicadas as harbingers of summer – the season of plenty – and as special envoys of Apollo, the sun god, because of the insects' tendency to sing most joyfully when the sun is at its fiery apex.

The Greeks were not the only ones to find cicadas fascinating. Meyers wrote that the Romans, Spaniards and Chinese, among other cultures, honored the insects in one form or another, stamping their likenesses on coins and gems, associating them with nobility and the afterlife, and finding hope of resurrection in their annual emergence from underground. Some cultures even learned to appreciate the cicada for its culinary and medicinal value, and do so to the present.

Of the 2,000 species worldwide, there are 19 species of cicadas known to live in Florida. They include the little brown cicada, little green cicada, seaside cicada, glass-winged cicada, hieroglyphic cicada, dusk-calling cicada, dog-day cicada, fall dog-day cicada and lyric cicada.

The timbals or tymbales (think of timbales, the shallow, single-headed drums that percussionists use to accentuate the beat in Latin- and other Caribbean-based music) account for the male cicada's ability to produce a loud and distinctive sound. These paired, drum-like organs are in the male cicada's otherwise mostly hollow abdominal cavity, which serves to augment the vibrations produced by the timbals. Lacking timbals, females are mostly silent partners, with the exception of a few species that signal acoustically by wing tapping or stridulating.

Entomologists tell us that male cicadas produce three kinds of sound:

- The calling or congregational song, which is the most common and serves to attract males and females of the same species.
- The protest or disturbance squawk, emitted when a bird or other predator seizes a cicada.
- In certain species, a much quieter courtship song, emitted when a male is within visual or physical proximity to a female.

Frequently, male cicadas of a particular species will congregate and sing in chorus to augment their sound and their chances of attracting females. So the noise we hear in the treetops on a typical summer day is nothing more than a courtship concert of sorts, not unlike a noisy singles' bar on a weekend night.

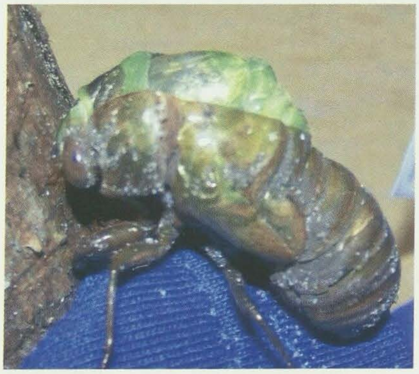
Most species of cicadas live only a few weeks after emerging from underground, during which time they spend imbibing a little sap but mostly singing, mating and laying eggs to ensure continuation of the species. It's precisely this cycle – the lengthy underground stay followed by a dramatic transformation from hulking earthbound grub into a lively aerial singer and the brief adult stage – that compels consideration.

Hatching from eggs deposited in slashes on twigs and branches during the summer, the pale, ant-sized nymphs immediately drop to earth and burrow underground, where they spend anywhere from four to 17 years, depending upon whether they are grassland, woodland or periodical species.

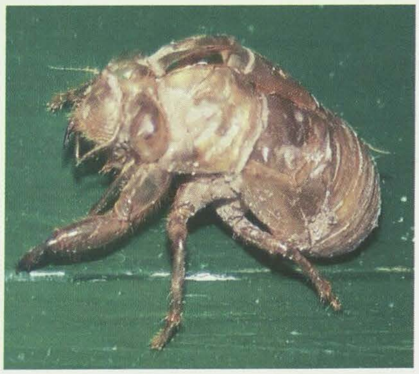
During their years underground, the nymphs feed exclusively on root sap. They molt four times, gaining in size each time. Then, responding either to internal biological urges or finely calibrated environmental cues, the nymphs emerge from the soil, attach themselves to nearby objects and break free of their exoskeletons (husks).

This transformation usually occurs at night, when the risk of predators is minimal. It's a lucky person that catches sight of a newly-emerged cicada in the morning light. Weak and vulnerable as any newborn, the neophyte rests alongside its former skin, its wings moist and wrinkled like crumpled cellophane paper. Slowly, its wings unfurl and stretch to their fullness, while the insect gains a darker, camouflage coloration.

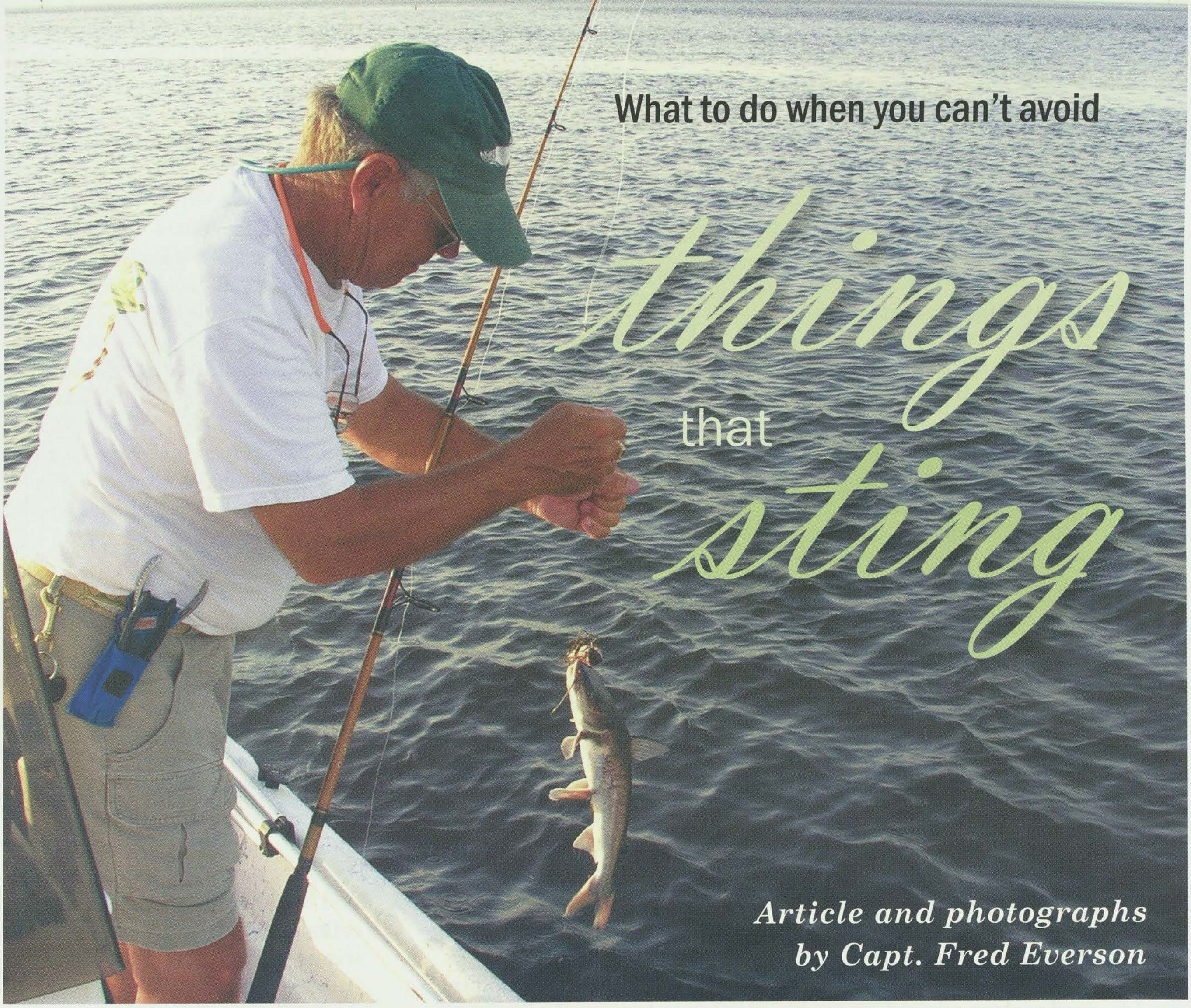
Once its wings have dried and gained a stiff, rippled, glass-like texture, the cicada flicks them downward into position. Then suddenly, it soars skyward toward the treetops, where it joins in song to the eternal sounds of summer. FW



A cicada emerges from its exoskeleton.

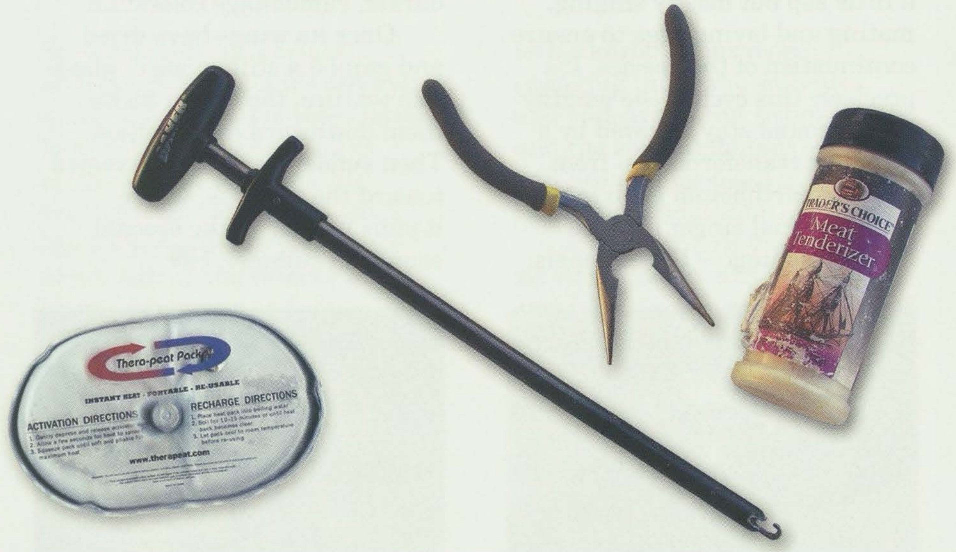


An empty "husk" or exoskeleton.



What to do when you can't avoid things that sting

Article and photographs by Capt. Fred Everson



Top: *Catfish spines are a constant danger, especially when fishing cut bait.* ***Above:*** *Capt. Fred suggests every saltwater angler's tackle box should include a dehooker, pair of pliers and meat tenderizer – in case the first two tools don't prevent a sting. FWC scientists suggest an instant heat pack (left) should be used to apply heat and could be a better choice than meat tenderizer, especially if the skin is punctured.*

I have had the great misfortune of encountering some saltwater creatures equipped with very potent defense mechanisms; namely, stingrays and hardhead catfish. My first incident occurred while wading, when I stepped on a very small stingray. It hit me in the ball of the foot, through the sole of a pair of cheap beach shoes. At the time, I did not know what it was, but the burning pain was mercifully short lived.

When I stepped on a much bigger stingray a year later, I knew what it was because I saw it swim away. That was a whole new venue in the world of pain. I was in the middle of a school of tailing redfish and loathe to leave, so I kept fishing. But as the pain quickly intensified, I knew I was in trouble, and headed for home. By the time I got there 30 minutes later, the pain was so severe that a trip to the emergency room became my only option.

At the hospital, a doctor looked at the wound and pronounced it to be a stingray and ordered a pan of hot water.

Much to my relief, as soon as my foot hit hot water, the pain subsided. The stingray's venom is protein based, and quickly neutralized by heat. However, I was left sitting there alone for about 20 minutes, and as the water cooled, the pain returned with a vengeance. Someone finally heard me groaning and brought more hot water and I stopped hurting.

When I got home, I logged onto my computer and did a search for stingray hits. The first site I logged onto told me everything I needed to know. Stingray venom is neutralized by heat, preferably 120-degree hot water, and it takes about an hour and a half to run its course. It also said that meat tenderizer applied to the wound will minimize the pain until you can get it into hot water.

Florida Fish and Wildlife Conservation Commission scientists suggest using instant heat packs instead of meat tenderizer. They are small, provide instant heat and many are reusable.

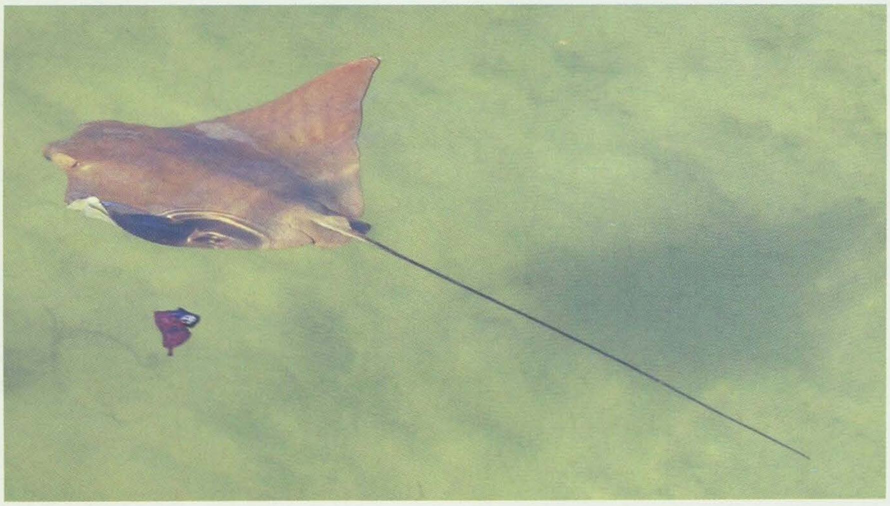
Had I known all this beforehand, it would have saved me a $400 trip to the emergency room, not to mention an hour or so of intense, teeth-grinding pain. You can bet there has been a container of meat tenderizer in my tackle box ever since.

There are other complications that can occur should you be unfortunate enough to have a losing encounter with a stingray. If the barb breaks off in the wound, it obviously must be removed. If there's any doubt, you need to see a doctor. And if your tetanus shot is out of date, you will need to get another. Most severe medical complications with stingray wounds come from secondary infections. Keep the wound clean and add Betadine to the hot water, it is especially good for killing marine bacteria.

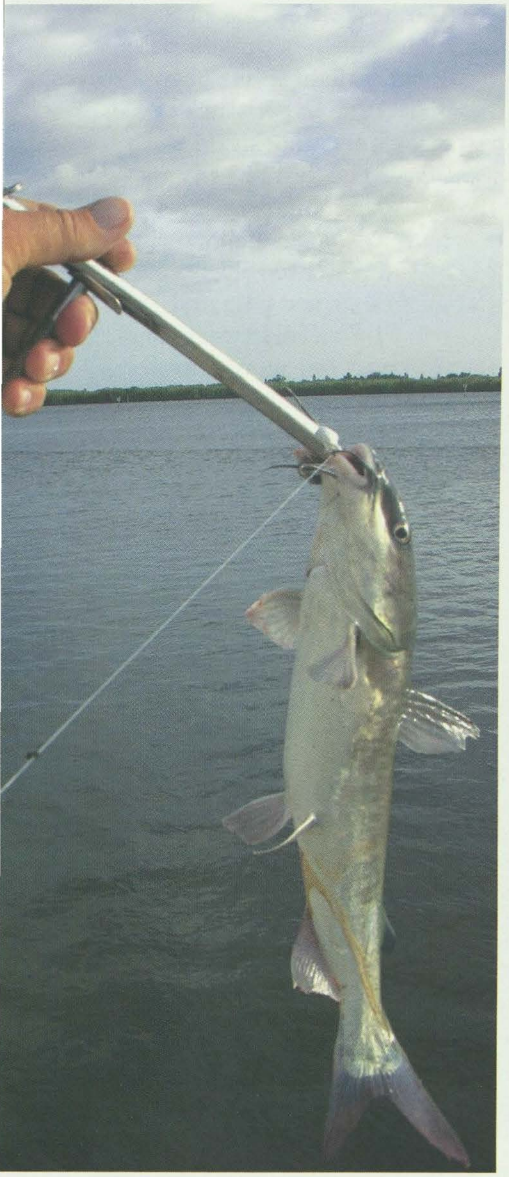
The best method to deal with rays is to avoid them by shuffling your feet when you wade. More than 99 percent of the time, they will get out of your way. However, it's all about knowing what to do when you run into that one percent.

Another critter that packs a venomous punch is the ubiquitous hardhead catfish. It has been my misfortune to get stuck twice by those slimy, undesirable creatures. The first one hit me under my thumbnail with its dorsal fin. I was on a charter with a lady and her three children, and when I turned pale and broke out into a cold sweat, I'm not sure who was more scared. It passed in a few minutes, as the penetration was slight. After that trip I purchased a dehooking device to avoid such painful encounters. But even that did not prove totally effective.

On a backcountry trip for



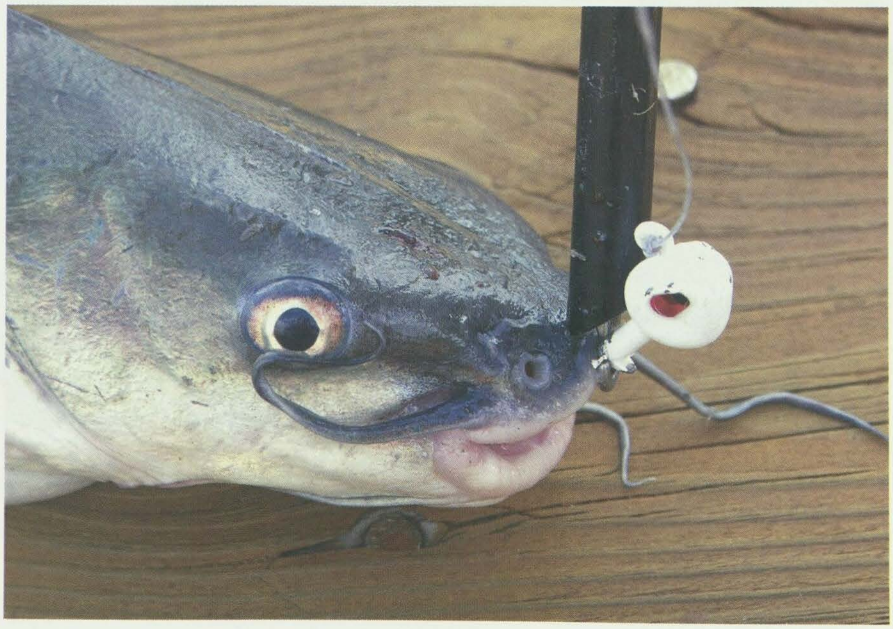
Top: *Waders are rarely stung by a cownose ray, because these rays swim most of the time and seldom rest on the bottom.* ***Above:*** *The spotted eagle ray also spends most of its time "flying." They are able to leap out of the water and will occasionally land in a nearby boat. Both species do have spines (barbs) on their tails and will use them if they feel threatened.*



redfish with cut bait, I landed a 12-inch hardhead on a circle hook. The hook was right where it was supposed to be, in the corner of the fish's mouth. I grabbed the shank of the hook with the tool, and gave the fish a shake. Instead of going over the side, it bounced off the gunwale and landed dorsal-fin first on the left side of my big toe. The resulting half-inch gash quickly covered the deck with blood, and I doubt that a red-hot poker could have hurt me any worse. I quickly reached for the meat tenderizer, and it did indeed lessen the pain. However, it still hurt, and it hurt a lot.

I got home in 20 minutes and quickly Googled catfish stings, and was again saved by the first Web site listed. Same treatment as for a stingray hit – hot water. The pain subsided immediately, but overnight my foot swelled to twice its size and was extremely tender. My grandmother's remedy for a festering wound was to soak it in hot water laced with vinegar and Epsom salts. Mercifully, after a couple of hours soaking in the solution, the swelling went down and the pain went away. A day later my foot was back to normal.

Anybody who fishes in saltwater should carry instant heat packs or meat tenderizer and know what to do in the event of a sting. It's a thing best avoided, but even when every precaution is taken, that one percent is always going to be there. Knowing how to deal with either creature will minimize your pain and expense. FW



Above: *Catfish spines are a constant danger, especially when fishing cut bait.* ***Top, left:*** *A dehooker enables an angler to release a catfish without having to bring it aboard the boat.* ***Left:*** *Hold the hook's shank with the dehooker and squeeze the handle until the hook rotates out of the fish's mouth.*

Field Notes

Florida Fish and Wildlife Conservation Commission sworn personnel are fully constituted police officers with the authority to enforce all laws of the state, not just those relating to resource conservation.

Surprise package

Officer Wells received a call from FedEx reporting it had a package that might contain venomous reptiles. Officer Wells responded and cautiously opened the package, revealing a heating device and a pillow case containing something live. Officer Wells then contacted Lt. Steve DeLacure because of his expertise in handling venomous reptiles. Although the pillow case contained only geckos, Officer Wells and Lt. DeLacure tracked down the sender, who had not put a valid address or phone number on the package. When the officers arrived at the sender's residence, they discovered several snakes, frogs, geckos and various other reptiles. The resident admitted selling the reptiles. The subject was issued several warnings for captive wildlife violations and booked into Pinellas County Jail for an outstanding warrant for violation of probation on a driving under the influence charge.

Address found

Lt. Ben Allen responded to a complaint by a citizen who found a large bag of trash dumped at the edge of his property. Inside the bag, along with trash, was an alligator with its tail cut off. Within the trash, Lt. Allen found a piece of mail with an address. He went to the address and interviewed a witness who admitted a friend had brought the alligator to his house about a week prior, and the two had cleaned it. The suspect was charged with taking an American alligator and dumping an amount of garbage less than 500 pounds.

Armed and dangerous

Officer Adam Resnick received a "be on the lookout" notice for a black Chevrolet truck occupied by an individual who was reportedly armed, dangerous and suicidal. A short time later, Officer Resnick found a vehicle matching the description. He approached the truck and saw a man passed out on the tailgate. When the man woke up, he immediately became confrontational. Officer Resnick saw a gun magazine in the man's waistband and instructed him to drop the magazine and put his hands in the air. The man, who appeared to be drunk, refused. Officer Resnick placed the man in handcuffs and transferred him to sheriff's deputies to be Baker-acted. An inspection of the vehicle revealed three loaded handguns and a dozen loaded magazines.

Cattle drive

Broward County investigators came across approximately 20 cattle on a roadway and levee in the western part of the county. The cattle were near a major roadway that could have placed motorists in jeopardy of collision. Initially, the investigators were able to "wrangle" eight cattle back into their pasture where a downed fence had created the opportunity for escape. Lt. Laubenberger later joined the investigators in searching a wooded area, revealing 14 more cattle. Ranch hands were given passage into a secure area to corral the rest of the herd.

Long, lone boat trip

Officer Jeff Gager worked an unusual boating accident when beachgoers called 911 after finding a man attempting to make his way to shore in heavy surf. EMS was summoned and the man was admitted to a local hospital for water inhalation. The man had been cobia fishing alone while on a borrowed vessel. He was sight-fishing from the vessel's tower, and as he attempted to climb down, a wave pitched the boat, tossing him into the water. The boat continued on its way west under power for another 130 miles before running out of fuel and then drifting ashore at Fort Morgan, Ala. The operator recovered, and the vessel was salvaged by Sea Tow.

Feeling better?

Officers Tom Tucker and Adam Small were driving east when they saw a car approaching them head-on in their lane of travel. Officer Tucker, along with the vehicles behind him, were forced off the road to avoid a head-on collision. Officer Tucker turned around and attempted to stop the vehicle. The local sheriff's office was notified and joined the attempt to stop the vehicle as it continued onto the interstate. Sheriff's deputies deployed stop sticks, which stopped the vehicle. When the driver was asked why she didn't stop, she stated that her car wouldn't stop. She also said she was on medication but hadn't taken it lately because she felt better. The defendant was charged with fleeing and eluding, aggravated assault and numerous traffic violations.

Netted

During air patrol, Pilot John Murphy located a group of five vessels working together to fish with illegal net gear inside state waters. When the fishermen saw the FWC aircraft, they abandoned their net gear and headed out to federal waters. Pilot Chris Colon also responded and directed water patrol Officers William Green and Steve Golden to the site. The officers discovered approximately 3,000 feet of gill net filled with live fish. The abandoned gear will be seized and destroyed.

Power down

Officer Shawn Polly responded to an accident involving a sunken vessel. While underway, the owner/operator of the vessel noticed his vessel listing, so he stopped to check the trim tabs. Since everything seemed to be in working order, he powered up the vessel. While on plane, he heard a loud cracking noise and turned in time to see both motors rise off the stern and fall into the water. The operator called for help before the vessel sank. The police department was first to arrive and recovered the operator from the water.

A bigger mess

Officer Jason Semeyn was contacted by dispatch concerning a dead osprey. Neighbors witnessed a man shoot the osprey and then kill it with a shovel. Officer Semeyn interviewed the neighbors and then contacted the suspect. Initially, the man denied any involvement and tried closing his front door, but Officer Semeyn obtained a confession after Miranda warnings. The subject said he was "tired of the bird making a mess of his cars." A pellet gun and the osprey were seized, and the suspect was charged appropriately.

Whitetails in the wilderness

Article and photographs by Cindy Mitchell

One balmy Saturday morning in late September, I traveled about a mile from my home to the Chuluota Wilderness Area to hike and photograph wildlife.

Above: *A mature buck looks back, never knowing the author was taking photographs of him.* ***Right:*** *Early in the morning, a young buck trots across a clearing in the Chuluota Wilderness Area.*

This is one of my favorite places to visit, not only because I live so close, but because it is secluded, well maintained and off the beaten path for many of those living in the sprawling Orlando metropolitan area.

Arriving early, at just about daybreak, I quietly walked the sandy paths through the scrub and piney flat woods to a large open field – normally a prime place to observe a few does and yearlings feeding at dawn. Standing still on the edge of the field, I searched with my binoculars, but did not immediately see anything. It is always a good idea to be still and wait, so I moved off the path to give the whitetails more time to enter the area.

Camouflaged by the backdrop of a short oak overhang, I only had to wait a few minutes before I saw a small buck heading in my general direction. Kneeling down in the thick, wet grass to lessen the chance that this young buck would see me, my first thought was, "Oh great, I'll probably pick up tons of ticks in this grass." Nevertheless, I stayed put because I love any opportunity to view and get a few photos of wildlife.

The little buck walked quickly, but timidly. Looking my way, he hesitated and bobbed his head a bit, but I do not think he saw me. He was facing the sun and I was in the shaded area of the oak. I am sure he sensed that something was not quite right, and within just a few brief moments, he trotted away into the brush.

As I stood to give my knees a break, I began reviewing my photos on the camera's screen. While scrolling through the pictures of the shy little buck, I realized the sun was bathing the field in the first shadows and golden light of the morning. Looking up to give the field another glance, my heart stopped for a moment, and I let out an inaudible gasp. Over the top of a small rise in the pasture's landscape, I spotted the largest set of antlers I've ever encountered in the wild.

With excitement rushing through me, I quickly knelt again as my heart began pumping wildly at the thought of getting some great photos of this large whitetail. Making a few adjustments to the camera settings and staying hidden in the shadow of a small oak, I kept snapping photos of the buck as he casually sauntered across the field.

At one point during the encounter, it seemed like the deer stopped to "pose" for the camera. As much as he was poised and completely self-assured, this buck seemed to know this was his wilderness and nothing in it would scare him off that morning, not even an amateur wildlife photographer. He left the field in silence, and I left the wilderness elated and in awe of his beauty and grace.

My outings at the wilderness area are not all like that particular morning. Fortunately for me, on that day, all the elements fell into place – the timing, location and lighting – and I was able to have the experience of a lifetime and take a few good photographs of a majestic Florida whitetail.

Every minute I spend in the wilds of eastern Seminole County, I count myself fortunate to live in an area where land conservation has become increasingly popular. As a third-generation native Floridian, I am glad to be raising my two fourth-generation kids with a healthy respect for nature and a strong desire to protect the wilderness of our beautiful Florida. FW

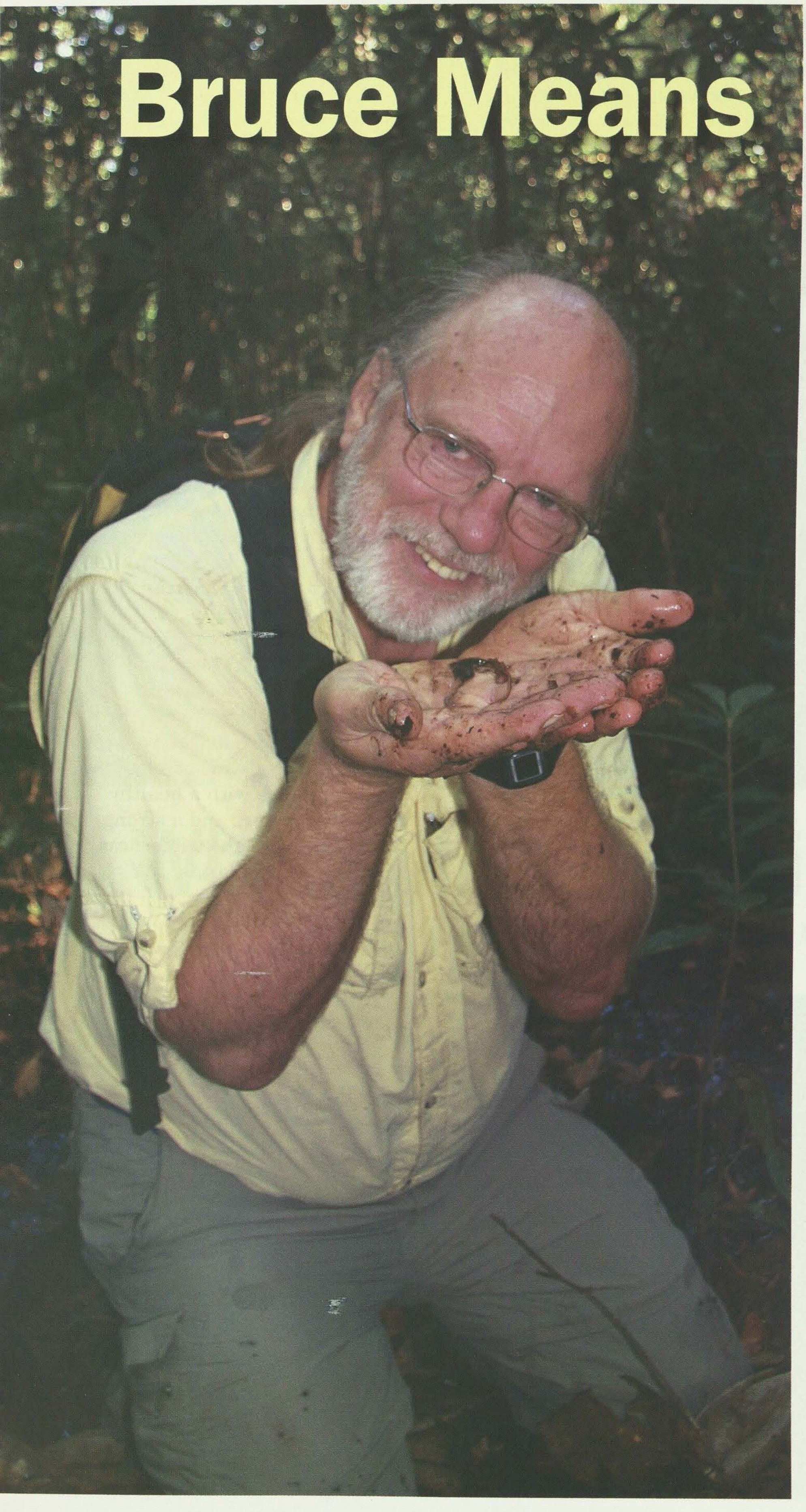
Cindy Mitchell is a writer and nature lover living in rural Chuluota.

Chuluota Wilderness Area

Not that I really want to spread the word about my isolated hiking place, but the Chuluota Wilderness Area is a natural lands area in southeast Seminole County – only about 25 miles east of downtown Orlando.

In the 625 acres of pine flatwoods, hardwood swamp and rare habitats such as sand pine scrub, I have observed deer, raccoons, gopher tortoises, a wide variety of birds and some of the most beautiful wildflowers imaginable. Wild pigs and even black bear make their home in this wilderness area, which is open daily from sunrise to sunset for hiking, biking, birding and local equestrians.

Bruce Means salamander hunter



Article and photographs by Doug Alderson

Famous Harvard biologist Edward O. Wilson describes Bruce Means as a top-notch scientist who has painstakingly documented his extensive studies of the eastern diamondback rattlesnake and several rare species of southeastern salamanders. But he also regards him as an adventurer who harkens back to the great explorer-naturalists of yesteryear.

"His is the incarnation of an endangered species," Wilson concluded in the foreword of Means' 2008 book *Stalking the Plumed Serpent and Other Adventures in Herpetology.*

Means' explorer-naturalist resume is impressive. He has stalked the most venomous terrestrial snakes on earth in Australia for *National Geographic*, wrestled monster alligator snapping turtles in the Apalachicola River, been bitten by a diamondback rattlesnake while alone on a barrier island and searched for rare snakes in Costa Rica during the eruption of a nearby volcano.

Through it all, he has placed as much emphasis on "creepy crawly" things such as salamanders as he has on awe-inspiring reptiles and other animals. His work with salamanders in North Florida's unique bogs, pine flatwoods and ravines is legendary, having earned a doctorate degree from Florida State University studying salamanders.

He has identified several new species of amphibians and a rare species of kingsnake that is only found between the Apalachicola and Ochlockonee rivers. It is part of his continuing documentation of the incredible biodiversity of Florida's Big Bend and Panhandle regions.

Since childhood, Means has had a keen interest in the natural world, but during his early adult years, he initially focused on truck driving and then on math and physics in college because he felt there was no money in biology. Still, the passion was there. He took an elective course in vertebrate biology at Florida State under the late Dr. Henry Stevenson.

"Henry tried to talk me into biology as a career," he recalled. "I resisted. It was the money thing. But he got me a four-month summer job banding birds in a cloud forest in Panama. One morning as I was opening up the mist nets, a huge migration of army ants marched through, and I watched how the many creatures scurried away and how birds would follow them and feed on the insects that were scared up. I loved it. After the ants passed through, I lay down on the forest floor and gazed at the forest canopy overhead. It was the first time I really evaluated my value system. It was then I realized I had to do what I loved, not just do things for money. I suddenly felt I had lost six years of my life, so I feel I've been scrambling to make up for it ever since."

Having known Means for about 30 years, mostly through involvement with various conservation issues, I had never gone salamander hunting with him. So, after arrangements were made, we embarked one fall morning and headed west of Tallahassee down Highway 20. Cypress trees were beginning to turn golden, and the purple spires of Godfrey's blazing star gave color to the piney woods along the route.

"This area (North Florida) has the highest number of frogs, snakes and turtles in the United States and Canada and the most salamander families in the world," he pointed out. "Plus, it probably has more carnivorous plants than any similarly-sized area on the planet."

For our first stop, Means wanted to show me the place where his salamander studies began. As we headed north from Bristol, we passed numerous pine plantations where even rows of thickly planted sand pine trees seemed endless.

"This used to be great indigo snake habitat," he said, sighing, "but most of the photosynthesis in these densely planted pine plantations is in the canopy – very little is reaching the ground. So, there's almost nothing growing beneath the trees. It's nearly devoid of plants. Animals such as gopher tortoises need green groundcover, and indigo snakes primarily spend nights and winters in gopher tortoise burrows. As a result, the indigo snake is pretty much wiped out in the Panhandle."

We parked along the highway where we could see the leafy canopies of hardwood trees through the spindly pines. I quickly grabbed my camera as Means took off towards the hardwood trees. Means is a large man, 6-foot, 4-inches tall and 200-plus pounds. In his late 60s, he moves like someone half his age on a mission. Brush, vines and branches are mere impediments to push through. His high school football experience comes in handy in the wilds. I scrambled to keep up. He paused on the edge of a precipitous slope that dropped 100 feet or more. We could almost walk across the tops of magnolia, beech and tulip-poplar that were rooted at the bottom and along the sides.

"This is the Big Sweetwater Creek Steephead," he said proudly. "I first came here in 1962 or 63. My whole career in Florida started here, in the Garden of Eden."

A Bristol preacher once claimed this 35-mile stretch of bluffs and ravines along the Apalachicola River was the original Garden of Eden, and it's been called that ever since. Many of the plants and animals are so unique, it is regarded as an Eden-like environment by visitors and researchers.

Steepheads, Means explained, are like three-sided box canyons with small springs and clear streams at the bottom. The streams from various steepheads join together and eventually empty into the Apalachicola River, about 5 miles away.

Above: *A rare Apalachicola dusky salamander.* **Facing page:** *Bruce Means holds two rare salamanders in a ravine near the Apalachicola River.*

Descending into the steephead, cascading dirt before us, Means cautioned, "This is the only place I know where black widow spiders make nests in branches. Be careful what you grab."

I couldn't keep from grabbing saplings on my way down since the sharp angle of the slope was 45 degrees or greater. I slipped more than once on fallen leaves.

About halfway down, Means casually added, "I've found rattlesnakes down here, and this is great copperhead country."

The Apalachicola River Valley is one of the few places in Florida where the southern copperhead snake thrives. For a herpetologist like Means, it's just another biological attribute to relish.

A shady coolness greeted us as we immersed ourselves in the tropical-like habitat at the bottom. The sweet aroma of large-leafed star anise permeated the air. The man-sized evergreens framed a paradisiacal environment of clear spring water, lush ferns, liverworts and mossy rocks. It was a naturalist's dream world, especially when Means dropped to his knees and began turning over large limestone rocks.

"Look, here's one," he cried with almost child-like wonder, gently catching a squirmy salamander in his big hands, "an Apalachicola dusky."

Means described the three types of salamanders found at the head of these steepheads, the Apalachicola dusky, southern two-lined and red. They thrive in water that is an almost constant 68 degrees Fahrenheit and never stops flowing, even during droughts. The Apalachicola dusky is the rarest salamander. It is only found in deep ravines of the Apalachicola and Chattahoochee river basins. And like many salamander species, these creatures have no lungs; they breathe through their skin.

We found a cluster of tiny white Apalachicola dusky eggs on the underside of one rock with a female dusky standing guard. A larger male lurked nearby. I asked what she would be protecting her eggs from.

"Most definitely from the male dusky," Means said.

Other salamander predators include snakes, raccoons, opossums and screech owls. Means was careful not to disturb the female.

"I didn't know they bred so late in the year," he said.

We were visiting during mid-October and Means thought most breeding occurred from April through September. He took some photos.

"You're witnessing a scientific discovery," he continued.

We followed several branches of the steephead. Means explained that over time, the steephead has cut inland from the river for more than 5 miles and it continues to move at a glacier-like crawl. He pointed to trees that once grew along the slopes and have since toppled into the ravine.

"I've witnessed movement of about 10 feet in 40 years," he said. "At some point in the future, this steephead will begin cutting into the road."

On our drive to the next biological hotspot, Means explained that most of the unique environments south of Torreya State Park were unprotected when he began exploring them. He tried to get the state to buy the land – without success. When The Nature Conservancy came to him in 1980 and said a donor wanted to buy a unique chunk of land for conservation and asked if he knew of a good candidate, Means jumped at the chance. He guided conservancy representatives and the donor, Elizabeth Ordway Dunn, through the ravines and steepheads of the region, and "she fell in love with the place."

At the time, a 1,200-megawatt coal-fired power plant was being proposed atop Alum Bluff, in the heart of the ravines region. But conservation officials persuaded power plant officials to relocate the plant, and Dunn was able to purchase a large area of bluffs and ravines – including Alum Bluff – through the conservancy for $1.2 million, the largest cash contribution for conservation in Florida up to that time. Dunn also worked with conservancy staff and consultants to establish a trust to continue funding purchases in the region. Another trust set up by Dunn allocates grants for land conservation and environmental programs throughout the state. She passed away in 1984, but her gifts continue to give.

After driving up and down tall hills that are the closest thing to mountain driving in Florida, Means parked beside the clear sand-bottomed Sweetwater Creek. He pulled a potato rake from the back of his pickup, and I followed as he waded up the creek.

"Cottonmouth moccasins like to sun along the banks," he said, "but it may be too cool for them today. They're very sensitive to temperature changes."

Still, I scanned the shores as we sloshed through the cool water, not knowing how well the moccasins' inner thermometers were working.

Means veered off the main creek bed and slogged through thick black muck. He stopped and began raking away debris.

"This is the type of place where we can find the one-toed amphiuma," he said.

An amphiuma is an eel-like salamander that looks like a cross between a snake and a giant earthworm, except that most amphiuma in the Southeast have four tiny vestigial limbs and two toes on each foot. The rare species found in this creek only has one toe on each foot, thus the name, the one-toed amphiuma.

After several attempts, Means found a wet and wiggly one-toed amphiuma, about as wide as a pencil. This species was smaller than the "mudpuppies" or "waterdogs" my friends and I found in a Tallahassee creek while in middle school. The one-toed amphiuma primarily feeds on earthworms, small beetles and larval aquatic insects. After admiring a creature that rarely sees bright sunlight, Means released it in the dark muck.

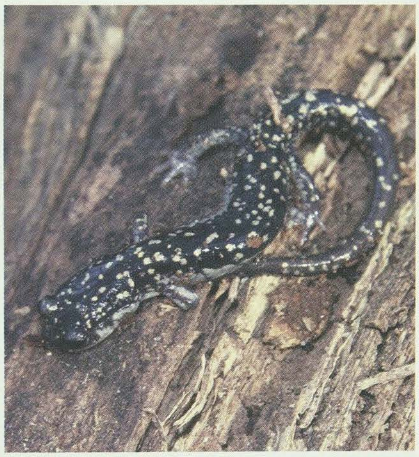
As I watched the rare salamander disappear, I realized the key to being a good biologist or naturalist was the honing of keen observation skills and having a curious mind. All life forms, from the smallest ant to large carnivores, have unique qualities and evolutionary history that can elicit a sense of wonder and discovery. And there is another trait that has become increasingly necessary in this age of rapid human population growth and hunger for resources, and that is to become an advocate for the species and natural systems being studied or appreciated. It's why Means worked to protect the Apalachicola bluffs and ravines system, and why he has long championed causes such as improving management practices on public lands such as the Apalachicola National Forest.

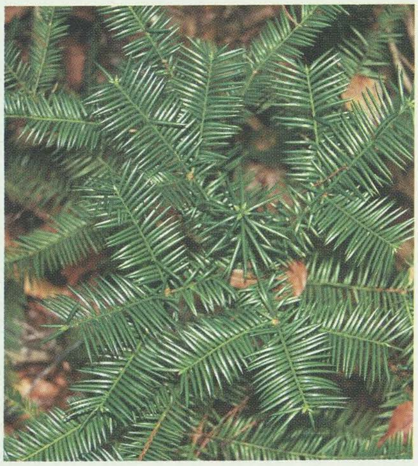
"How do you give people an appreciation for what we have lost and what we still have left in Natural Florida?" Means said on the way home. "You have to care about nature in the first place."

For Means, the salamander hunter, helping people appreciate nature and biodiversity has become an urgent mission.

"I'm feeling my mortality now. Every hour is precious," he said. FW

Bruce Means joins several FWC biologists in a new book Doug Alderson is writing for the University Press of Florida on rare and endangered wildlife. To learn more, log onto www.dougalderson.net.



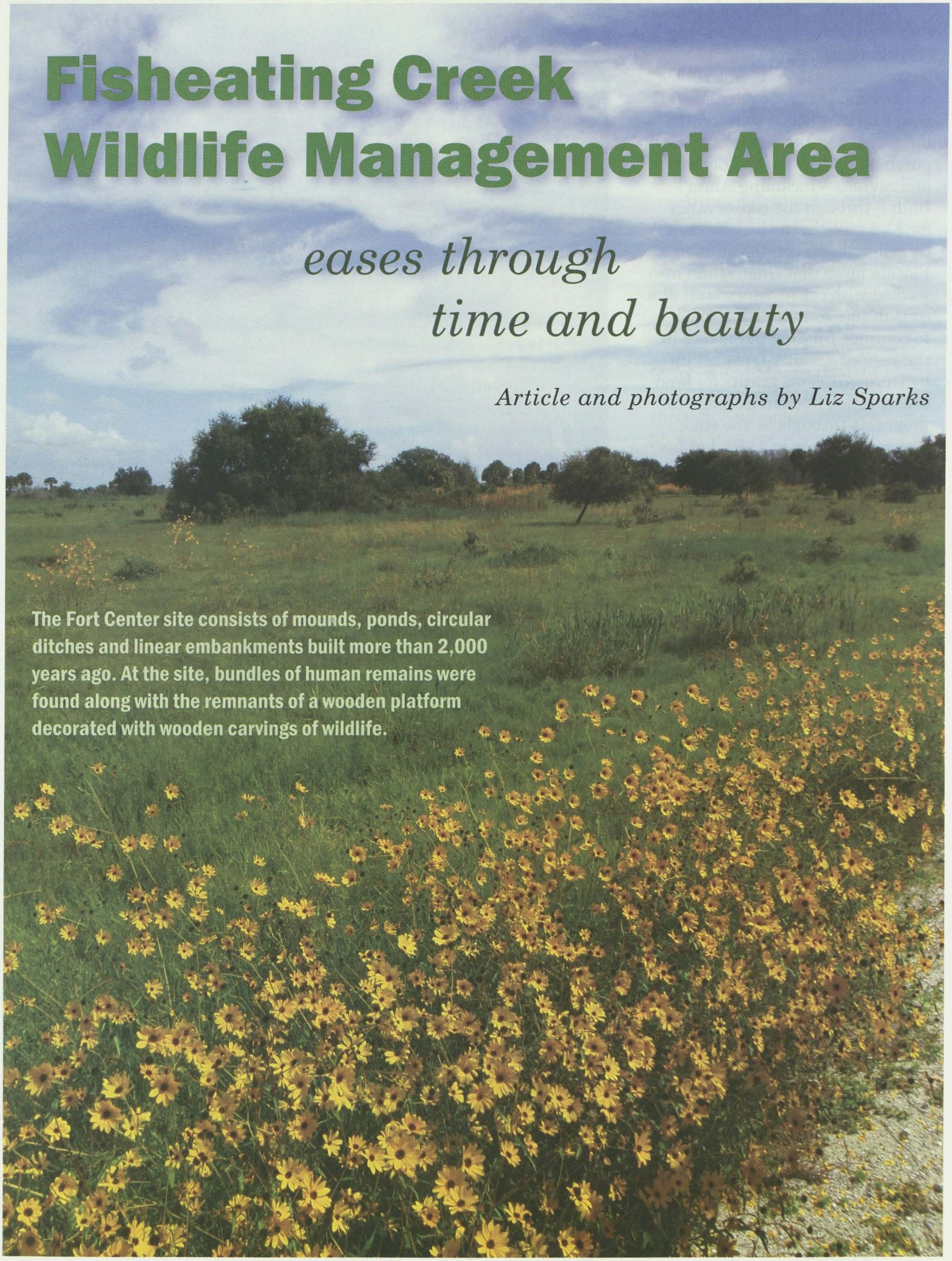


Top to bottom: *The Apalachicola ravines are home to a bright atamasco lily sprouting in early spring as well as more common salamanders, such as this southeastern slimy salamander and rare and endangered plants, such as the torreya tree.* ***Facing page:*** *Bruce Means with rare one-toed amphiuma salamander.*

Fisheating Creek Wildlife Management Area

eases through time and beauty

Article and photographs by Liz Sparks



The Fort Center site consists of mounds, ponds, circular ditches and linear embankments built more than 2,000 years ago. At the site, bundles of human remains were found along with the remnants of a wooden platform decorated with wooden carvings of wildlife.

The dark water of Fisheating Creek slowly snakes its way through 50 miles of bald cypress swamps and hardwood hammocks. It is Lake Okeechobee's only free-flowing tributary.

Fisheating Creek Wildlife Management Area in Glades County is prized for its scenic beauty, wildlife-rich landscapes and fascinating history. Throughout the centuries of human occupation, the creek has been a focal point for subsistence and recreation.

The first known settlement occurred along the banks of Fisheating Creek between 1,000 and 500 BC. The early inhabitants, known as the Belle Glade people, began building mounds and other earthworks and subsisted by netting fish and harvesting turtles, snakes and alligators. The creek was more than a source of food and water. It was also a canoe highway leading to Lake Okeechobee and its resources to the east, and other settlements to the west.

The Fort Center site consists of mounds, ponds, circular ditches and linear embankments built more than 2,000 years ago. At the site, bundles of human remains were found along with the remnants of a wooden platform decorated with wooden carvings of wildlife including life-sized cats, bears, foxes, eagles and wading birds. A wooden carving of an otter running with a fish in its mouth was one of many objects preserved in muck at the bottom of a pond. Fort Center was still occupied when the Europeans arrived in the 16th and 17th centuries, though there was no evidence of agriculture. The site is listed in the National Register of Historic Places.

From the Fort Center trailhead area off County Road 78, a new interpretive history trail entices visitors to travel back through time to explore the colorful story of the creek's inhabitants. First, hike or bike about a mile to reach a loop trail. Wide-open vistas are perfect for wildflower and wildlife viewing. The mile-long loop trail winds through a shady hammock. A series of signs highlights the area's cultural and archeological history.

Birders can saunter to the end of the road and discover Cowbone Marsh, a winter refuge for wading birds, migratory white pelicans, waterfowl and sandhill cranes. Audubon's crested caracara and Florida sandhill cranes may be seen year-round on the prairies, depression marshes and unimproved pasture on the adjacent conservation easement land.

In late summer, Fisheating Creek is an important staging area for swallow-tailed kites before their migration to South America in August. In April and May, they nest and raise young all along the creek. Warblers are abundant during fall and spring migrations.

December and January are pleasant months for exploring the area and creating memorable journeys by canoe or kayak. Paddlers will find miles of undeveloped landscapes that remain the domain of alligators, ibis, herons, egrets, wood storks, roseate spoonbills, hawks, ospreys and owls.

Bank or boat fishing in the creek yields catches of bass, crappie, catfish and bream, while hunters find hog, deer and Osceola turkey. The Fisheating Creek area is popular with astronomy buffs; low levels of light pollution create ideal star-watching conditions.

Camping facilities, canoe/kayak rental and livery services and an unimproved boat ramp are available at the Fisheating Creek Campground off U.S. 27 in Palmdale. Contact the livery at 863-675-5999 for information about water levels, which vary widely with rainfall and must be considered when making paddling plans.

For more information on this and other Florida Fish and Wildlife Conservation Commission recreation lands, visit www.MyFWC.com/recreation. FW

FWC **Update**

Commissioners deal with a variety of wildlife issues during April session

The FWC wrapped up its two-day session April 16 in Tallahassee. During the meeting at the Tallahassee-Leon County Civic Center, Commissioners dealt with a variety of issues.

The FWC reviewed draft rules for the take of freshwater turtles on the first day of the meeting. After discussing and hearing public comments, the Commission directed staff to finalize the draft rule for banning the commercial take of freshwater turtles. The final rule will be considered during a meeting in June in Crystal River. If the rule is approved in June, it will be the strongest conservation measure for freshwater turtles in the United States.

FILE PHOTO

During its April meeting, the Commission directed staff to finalize a draft rule for banning the commercial take of freshwater turtles.

The Commission approved new language regarding establishment and operation of game farms. The final public hearing on game farms will be held at the June meeting.

The success of peregrine falcon numbers in recent years was discussed by the Commission when staff presented the draft peregrine falcon management plan. The Commission directed staff to finalize the management plan for peregrine falcons and bring back a rule to delist the species at the June Commission meeting.

The FWC revised permitting guidelines for gopher tortoises. Revisions include how some mitigation contributions are calculated, "10 or Fewer Burrows" permit-specific criteria and guidance, a 5-year permit option and updated gopher tortoise surveying requirements.

The Commission also voted to establish two new hunting areas, in Central and Southwest Florida at the Kissimmee Chain of Lakes Area and the Babcock Ranch Preserve. The Commission also set hunting dates and restrictions on the two areas.

In marine fisheries action, the Commission approved a rule that establishes administrative penalties for blue crab management program violations. This rule will take effect on July 1.

The FWC also proposed changing the recreational harvest season for red snapper in Gulf of Mexico state waters because new data indicate this year's Gulf red snapper fishing season needs to be shortened to compensate for overharvests in 2008. The Commission will hold a final public hearing in June on a proposed rule to reduce the season from June 1 - Sept. 30 to June 1 - Aug. 14, which is consistent with a pending federal regulation.

Commissioners also proposed new rules for grouper that would be generally consistent with anticipated federal regulations intended to help reduce fishing pressure so that grouper fishing in the Gulf can improve in the future.

These proposed rules would decrease the daily recreational aggregate bag limit for grouper from five fish to four fish per person in Gulf state waters. They also would establish a Feb. 1 - March 31 closed spawning season for all recreational and commercial harvest of shallow-water groupers (gag, black, red, yellowfin, scamp, yellowmouth, rock hind and red hind) in Gulf state waters. This proposed two-month closure would extend a current one-month commercial closed season for red, gag and black grouper in Gulf state waters.

The proposed grouper rules also would reduce the commercial minimum-size limit for Gulf red grouper, and for all importation and sale of red grouper from 20 inches to 18 inches total length. A final public hearing on the FWC's proposed Gulf grouper rules will take place in June.

Commissioners also approved a resolution to request that Gov. Charlie Crist ask the U.S. Secretary of Commerce to provide disaster relief to Florida's Gulf commercial reef fish longline industry and related seafood dealers. This action is needed because a pending federal emergency rule to protect sea turtles will effectively close down the use of longline fishing gear to catch reef fish in the Gulf.

Federal disaster relief would give the longline industry time to adjust to the closure so the industry and related seafood dealers can stay in business and continue to supply fresh grouper for consumers.

The Commission also reviewed and discussed Florida's permit fishery and directed staff to schedule public workshops and gather more information regarding this fishery. And, they provided directions to staff regarding various federal marine fisheries management issues.

In addition, the Commission granted an easement to Punta Gorda officials for installation of a 1,500-foot wastewater line across the Fred C. Babcock/Cecil M. Webb Wildlife Management Area.

Updates from the June 17-18 FWC meeting in Crystal River will appear in the September/October issue. The FWC will meet again Sept. 9-11 at Howey-in-the-Hills.

Boating fatality statistics have improved, but could be better

The FWC has released the boating accident statistics for 2008, and fortunately, there were fewer boating fatalities last year. The reported 54 fatalities represent a 30-percent reduction from the 2007 statistics. While this is a step in the right direction, boaters shouldn't let their guard down, according to the FWC.

"Although boating fatalities were down in 2008, so far in 2009, 21 people have lost their lives on the state's waters," said Lt. Ed Cates of the FWC's Boating and Waterways Section. "Boaters can be safer by following a few simple boating safety tips."

Most boating accidents occur when someone isn't paying attention or is driving too fast. Cates cautions boaters to slow down and stay alert to their surroundings.

Drowning is the leading cause of boating fatalities, even though most of the victims reportedly knew how to swim.

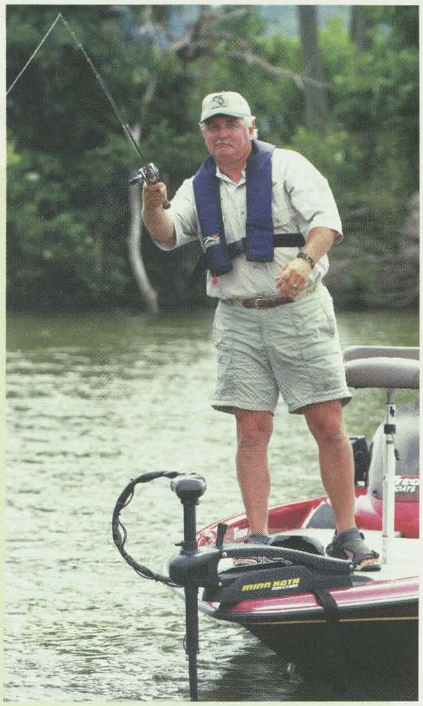
"The greatest way to ensure that you and your passengers make it home at the end of the day is to get into the habit of wearing a life jacket," Cates said.

He also said boaters should be especially careful when consuming alcoholic beverages.

The FWC also suggests that if going offshore, boaters should invest in an Emergency Position-Indicating Radio Beacon so rescuers can find them promptly in the event of trouble.

"We want boaters to have fun and return home safely," Cates said.

For more information on the 2008 boating statistics, visit the Boating area of the FWC's Web site: MyFWC.com/SAFETY/Safety_Boat_Safety_AccidentStats.htm.


U.S. COAST GUARD

According to the U.S. Coast Guard, the percentage of boaters who drown as a result of not wearing a life jacket is consistently between 85 percent and 90 percent each year.

Private landowners recognized for their wildlife resource stewardship

TIM DONOVAN

Martin and Daphne Wood (with trophy, plaque) with (left to right) Commissioners Dwight Stephenson, Brian Yablonski, Chairman Rodney Barreto, Kenneth Wright, Richard Corbett and Kathy Barco.

A Florida couple has dedicated their lives to conservation of Florida's wildlife. The FWC recognized Daphne and Martin Wood of Monticello during the April Commission meeting in Tallahassee.

Daphne is the chairman of the Wildlife Foundation of Florida, and Martin serves on various committees of the foundation.

"Marty and Daphne epitomize what stewards of our fish and wildlife resources should be," said Ken Haddad, executive director of the FWC. "Through their work on the Wildlife Foundation of Florida they bring direct assistance and caring to the programs and staff of the FWC."

Haddad also recognized their stewardship as private landowners in North Florida and their promotion of "conservation easements and exemplary stewardship on all private lands."

Over the years, they have provided financial support not only to the Wildlife Foundation of Florida, but to the Future of Hunting in Florida, U.S. Sportsman's Alliance's Trailblazer program for youth, Tall Timbers Research Station and Land Conservancy, the FWC's Beau Turner Youth Conservation Center, the Equestrian Land Conservation Resource, 1000 Friends of Florida and many other wildlife-related organizations.

Haddad told the Commission the Woods believe wholeheartedly in the statement, "We will be judged not by what we create, but by what we refuse to destroy."

The Woods' property near Monticello hosts dozens of threatened and endangered species, including gopher tortoises, pitcher plants, wiregrass and the largest area of toothache grass outside of a state park.

This couple has taken their passion for hunting, fishing and the outdoors and applied it directly to conservation of land and effective land management.

"I can't speak highly enough about their generosity and engaging spirit for the work we do at the FWC," Haddad said. "They are true friends of the FWC, and for that we cannot thank them enough."

FWC **Update**

Brevard County student wins 2009-2010 manatee decal art contest

The FWC received 86 art entries in the manatee decal contest for 2009-2010. The FWC announced on May 18 that Deanna Parsons, an 11th grader at Rockledge High School in Brevard County, won the top honor of having her painting used in the design of the FWC's manatee decal this year.

The winning art depicts a face view of the manatee. Parsons' watercolor featured tints of light blue and green as the backdrop.

"I believe the manatee to be a magnificent animal, and it's one of my favorite sea creatures," Parsons said. "I wanted this manatee to be near the surface of the water, where the sunlight is free to play on the animal's skin as it pleases, creating a beautiful effect."

The theme for this year's contest was "Rescue Me!" That message tops the decal. The bottom contains the Wildlife Alert number people should call to report sick, injured, entangled or orphaned manatees.

It is fitting that the contest winner is from Brevard County, which records a high number of manatee rescues or recoveries each year. Rockledge High School had several students place in the final round of the FWC's 18th annual Manatee Decal Art Contest.

The top six statewide finalists include:

- First place - Deanna Parsons, Rockledge High School, Brevard County
- Second place - Sara Kuta, Rockledge High School, Brevard County
- Second place - Maria Perez, Pembroke Pines Charter High School, Broward County
- Third place - Taylor Gentle, Rockledge High School, Brevard County
- Third place - Johnny Hobbs, Olympia High School, Orange County
- Third place - Christina Jensen, Lake Mary High School, Seminole County

County tax collectors' offices throughout the state distribute the manatee decals. Anyone choosing to donate $5 or more to manatee conservation receives a decal. Proceeds support manatee research, recovery, rehabilitation, management and educational programs administered through the FWC's Save the Manatee Trust Fund. Decals with artwork designed by last year's winner, Austyn Bynon, are available at county tax collectors' offices through the end of June. Parsons' winning design becomes available in July, and distribution will continue through June 2010.

County tax collectors' offices throughout the state will distribute this year's winning manatee decal, designed by 11th grader Deanna Parsons.

The FWC's Marine Mammal Pathobiology Lab and research field staff respond to statewide calls regarding sick, injured, entangled or orphaned manatees. Personnel from various agencies and organizations work with FWC biologists to rescue and transport manatees to rehabilitation facilities around the state or to recover dead manatees for research purposes.

To report a distressed manatee, call the FWC's Wildlife Alert Hotline at 888-404-FWCC (3922). For more information on Florida's manatees, go to MyFWC.com/Manatee.

FWC recognizes excellent performance

The FWC recognized two staff members, a volunteer and a local writer, on April 15.

During the first day of its two-day meeting in Tallahassee, Commissioners recognized FWC biologists Kipp Frohlich and Scott Sanders for leading the agency's participation in the Florida State Employees' Charitable Campaign. FWC employees met 110 percent of the campaign goal for the Big Bend region, even during these difficult economic times.

Commissioners also honored volunteer hunter safety instructor of the year Ricky Roland of Duval County. Roland, who became an instructor in 1983, also trains schoolteachers to teach archery in schools.

In addition, Commissioners recognized writer Susan Cerulean of Tallahassee. She was described as "an artist who paints with words" by Jerrie Lindsey, director of the FWC's Office of Recreation Services, who made the presentation. Cerulean is the author of essays and poetry with conservation messages, and she has edited two books, "*The Book of the Everglades*" and "*The Wild Heart of Florida*." She also wrote the FWC report, "*Wildlife 2060: What's at Stake for Florida?*"

A special guest was recognized by the Commissioners for his paintings that "are walking billboards for Florida." Dr. Guy Harvey is an artist, scientist, diver, underwater videographer and angler. He also is the founder of the Guy Harvey Ocean Foundation and the Guy Harvey Research Institute at Nova Southeastern University. For more information, go to www.GuyHarveyOceanFoundation.org/home.html.

FWC continues tracking panthers across Southwest Florida

FWC FILES

The FWC program that tracks endangered Florida panthers with GPS-equipped collars is intact, despite cutbacks in state budgets.

"We are still tracking the panthers in Southwest Florida," said Darrell Land of the FWC's panther team. "And we're using the GPS-equipped collars to give us information about individual panther movements."

Land spent a recent Monday morning flying all over Southwest Florida and was able to track 12 panthers. Since Land joined the FWC's panther team in 1985, monitoring from the air has been a regular practice every Monday, Wednesday and Friday.

"We can tell if an animal has moved," Land said. "And if they haven't, we can get in there to determine if it's been injured or given birth to kittens."

The FWC uses two methods of tracking panthers. The newer GPS equipment allows tracking of the panther when biologists can't get up in the plane at night or during storms. The longevity of the GPS monitor is limited, so panther trackers also use the old-style VHF equipment. The older technology is dependable for three or more years, but its use requires a biologist to collect location information from airplanes.

Travel restrictions on state agencies in recent months have resulted in the FWC's panther team cutting back on monitoring panthers within Everglades National Park, which requires overnight stays in hotels.

"We can monitor just fine within the area of our home office in Naples without incurring overnight travel costs," Land said.

The range of the Florida panther has been reduced to Southwest Florida, where approximately 100 of the unique cats exist today. The panthers' numbers declined to approximately 30 cats by the early 1980s. Work by FWC biologists has been successful in bringing those numbers back up and restoring the genetic health and vigor of the panther population. Much of the funding for panther research and monitoring comes from fees collected when residents purchase panther specialty license plates.

"Research by biologists includes field studies on the panther to determine denning habits and movement patterns," said Kipp Frohlich, leader of the FWC's Imperiled Species Management Section. "All of these studies aid in the long-term survival and recovery of the Florida panther."

For more information on the Florida panther, go to MyFWC.com/panther/index.htm.

FWC officer receives MADD award for impaired boater arrests

PHOTO COURTESY OF BILL RICHARDSON, FHP

FWC Officer David Erdman receives the MADD award from Lt. Gov. Jeffrey Kottkamp (right) and Don Murray, MADD Florida executive director.

FWC law enforcement officer David Erdman of Panama City is the 2008 recipient of the Mothers Against Drunk Driving award for recording the most boating-under-the-influence arrests.

Erdman, who began work with the Florida Marine Patrol in 1997, made 29 impaired boater arrests last year. It is the seventh straight year Erdman has received the MADD award, chalking up a total of 355 impaired-boat-operator arrests.

The MADD life-saving award is open to any FWC law enforcement officer or federal, state or county law enforcement officer who is involved in patrolling Florida's waterways.

Erdman received the award March 16 at the annual MADD banquet in Tallahassee. Don Murray, MADD Florida state executive director, and Lt. Governor Jeffrey Kottkamp presented the award.

Under Florida law, any boater operating a vessel while impaired because of the use of alcohol or drugs is subject to arrest. Adult vessel operators are considered impaired if their blood alcohol content is .08 or higher; for people under the age of 21 the threshold is .02.

Florida law requires that impaired boat operators be arrested and taken to jail where they must remain at least eight hours.

"This is all about safety. The way I look at it, I, and all the officers are there to make sure people can go out on the water and not have to worry about someone who is impaired or drunk running into them or causing an accident," Erdman said. "Not only that, people who are intoxicated on the water will be intoxicated on the highway when they get behind the wheel of a vehicle and drive home."

Erdman said part of his motivation for watching out for impaired boaters is the human toll on those involved in accidents.

"These are not victimless crimes. Impaired boaters who injure or kill themselves or others affect other families – children, mothers and fathers, aunts and uncles, grandparents and on and on," he said.

Erdman said in 88 of the arrest incidents children were on board the vessels.

Despite the arrest numbers, Erdman wishes he never had to write another boating-under-the-influence ticket.

"I'd be happier if everyone left alcohol or drugs behind, but unfortunately that's not reality," he said.

FWC Update

FWC helps boat-rental businesses comply with new regulations

FILE PHOTO

Boating is practically synonymous with Florida. Boat-rental businesses keep very busy providing boats to individuals who would like to enjoy the Sunshine State out on the water. However, there is more to operating a boat than just filling out a rental form.

Beginning in April, boat-rental businesses must display boating safety information at their place of business for their patrons to see. The FWC is assisting businesses with this law by providing free signs with the required boating information.

The FWC's Division of Law Enforcement held public meetings and invited a host of rental-business owners to attend. The attendees helped FWC staff determine what topics are most important and how that information might best be displayed to the renting public. Business owners worked with FWC staff to create separate informational signs for paddle boats, motorboats, sailboats, personal watercraft and houseboats. The FWC subsequently passed regulations that require rental companies to prominently display these signs to the renting public.

The intent is to make sure people who rent boats in Florida have an excellent opportunity to be exposed to information on a few of the most essential boating safety topics prior to renting.

Signs have been produced and mailed, free of charge, to as many boat rental businesses as could be identified. Rental companies that have not received their signs are encouraged to contact the FWC's Boating and Waterways Section at 850-488-5600.

New FWC law enforcement officers ready for duty

A new group of FWC law enforcement officers are patrolling the woods and waters of the state.

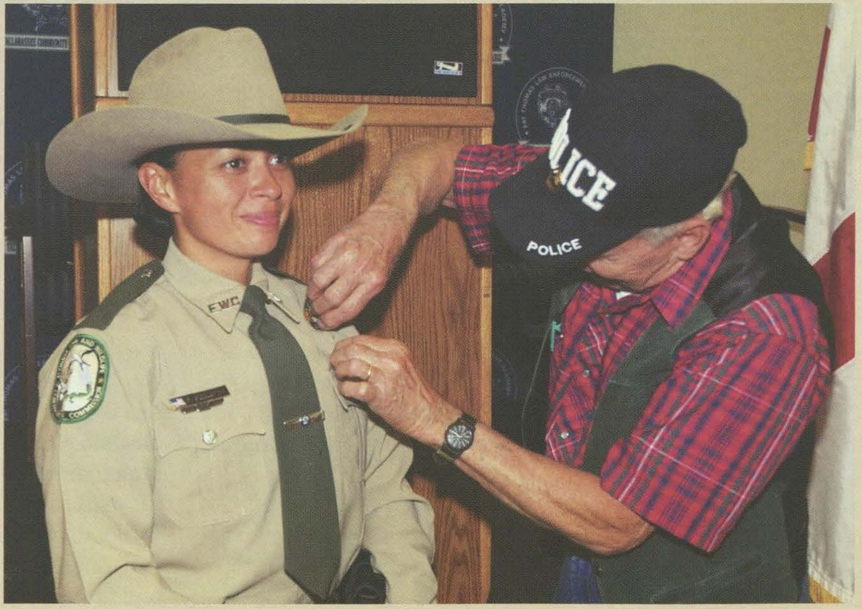
Twenty-six FWC recruits became officers after graduating March 20 from the Pat Thomas Law Enforcement Academy in Tallahassee. The recruits attended the academy for six months and received a wide array of training, which included accuracy with firearms, alligator handling, vessel operation, defensive tactics, all-terrain vehicle operation and BUI/DUI identification. They will spend an additional three months with a field-training officer.

The new graduates are assigned to counties throughout the state. Two of the officers come from different states. Officer Jarod Molnar is from Georgia and is assigned to Palm Beach County, and Officer Evan Laskowski is from Maryland and is assigned to Glades County.

The FWC's Division of Law Enforcement protects and manages 755 species of wildlife and more than 700 species of fish. The division patrols 34 million acres of public and private land, 8,200 miles of tidal shoreline, 3 million acres of lakes and 12,000 miles of rivers and streams. FWC officers are authorized to enforce all state laws and federal fisheries and wildlife laws.

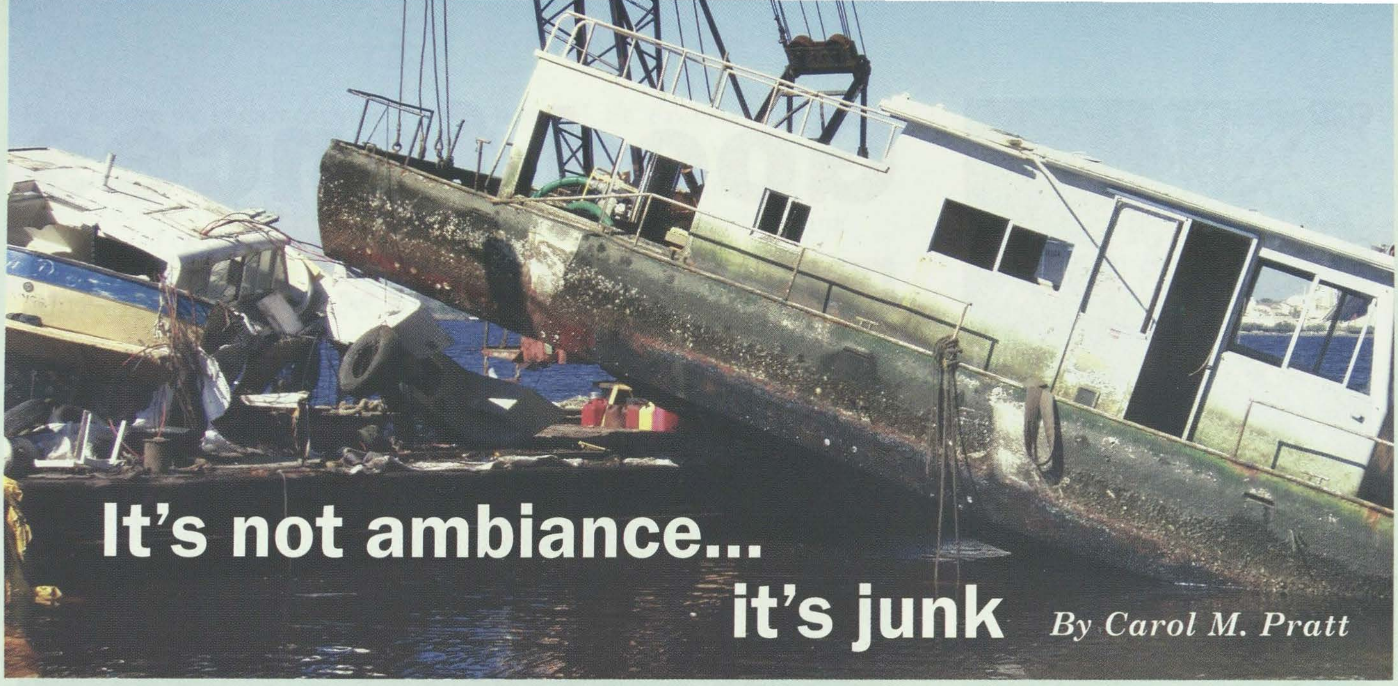
The graduates and the counties they are assigned to are as follows:

- Craig Baker - Broward
- James Bonds - Alachua
- Raquel Daniels - Monroe
- Tiffany Davis - Monroe
- Michael Davis - Okeechobee
- Thomas Enos - Broward
- Joshua Greenier - Monroe
- Justin Henry - Citrus
- Jordan Hilliard - DeSoto
- Stephen Judah - Polk
- Harold Lanier - Brevard
- Evan Laskowski - Glades
- Michael Milillio - Monroe
- Jarod Molnar - Palm Beach
- Christopher Pettey - Martin
- Samuel Riggs - Citrus
- Henry Rockwell - Hendry
- Lonnie Sushil - Lee
- Rene Taboas - Dade
- Jamie Young - Palm Beach
- Randolph Irwin - St. Lucie
- Brandon Lasher - Marion
- Sulin Schafer - Escambia
- John Standland - Washington
- Kevin Sweat - Polk
- Jason Tidwell - Polk



TIM DONOVAN

During the graduation ceremony for new FWC law enforcement officers, recruit Sulin Schafer has her badge pinned on by her father, retired Army SFC Ronald Gilmet.



It's not ambiance... it's junk

By Carol M. Pratt

PBS & J

Barges and heavy equipment are often required to remove derelict vessels, including this one in Duval County.

Over the years, Florida's waterways and coastlines have increasingly become littered with junked, abandoned boats. To some, this is part of the scenery and gives a little "character" to a place. To others, they're eyesores. But in reality, they are potentially hazardous to people, wildlife and the environment.

Lt. David Dipre is the state's derelict vessel coordinator for the FWC. He is stationed in the Florida Keys, one of the state's hotspots for junked-out boats, officially known as "derelict vessels." He's been working for years to get derelict vessels removed from the state's waters.

"In many instances, the owners feel they can just leave their inoperable boat where it is and are unconcerned that it creates many different types of hazards," Dipre said. "Basically, it's dumping - no different than abandoning a wrecked car on the side of the road, and just imagine how our roadways would be if we allowed every vehicle that broke down to remain where it is."

It is estimated that nearly 1500 derelict vessels are along Florida's coasts and in the waterways. They are dangerous for many reasons. A derelict vessel can be struck by a moving vessel potentially causing property damage, injury or death. They congest waterways. The deteriorating boats dump pollutants into the water. Riggings, lines and other debris which come off the vessels create hazards to wildlife.

"Unfortunately, the number of derelict vessels littering our waters has been continuously rising, while the removal of these junked boats has not kept pace," Dipre said. "There are several reasons for this. Tropical storms increased the number of damaged and abandoned boats. The population of Florida has grown and as a consequence so has the number of boaters, and the number of derelict vessels. Funding has been an issue on the state and local level. It is expensive to remove these big, messy hunks of trash."

But things are looking up. For the 2008-09 fiscal year, legislators took action, granting $1.55 million to the FWC to remove derelict vessels. The FWC has gone full speed ahead on cleaning up the sunshine state's waters. Within the last year, the agency removed almost 100 derelict vessels - prioritizing according to the hazard each vessel creates.

"We use every available means to get the person responsible for the vessel to have it removed," Dipre said. "We will work with the owner to remove it, but if he fails, he will be charged with a crime."

If the owner of the vessel doesn't have it removed, the state pays for it. The more the state pays, the less money there is for the removal of other derelict vessels. In some instances, the last person who possessed the vessel, rather than the owner, will have to remove it at his own expense. The person responsible for the derelict vessel is given five days to remove it.

"Persons responsible for derelict vessels risk prosecution for a first-degree misdemeanor, and they may have to pay a civil penalty to cover the cost of the removal," said Dipre. "On occasion, there may be a felony charge if the boat was intentionally dumped."

The longer a derelict vessel sits in the water, the costlier the removal probably will be. Removal varies from a few thousand dollars to hundreds of thousands of dollars.

"It is no simple matter to remove a derelict vessel," Dipre said. "Sometimes it requires scuba divers to work below the surface of the water. Precautions must be taken so oil and other pollutants don't dump into the water when the vessel is moved. The boats can have exposed nails and broken glass and be covered in barnacles. Barges and heavy-equipment are used. It is a lot of work, time and money."

Dipre encourages the public to report suspected abandoned, junked boats as soon as they see one.

"It is better to remove a derelict vessel as soon as possible. It costs less money - whether it's the owner or the state that removes it. The likelihood of it getting struck by another boat or dumping pollutants into the water also are decreased if it is reported and investigated early on."

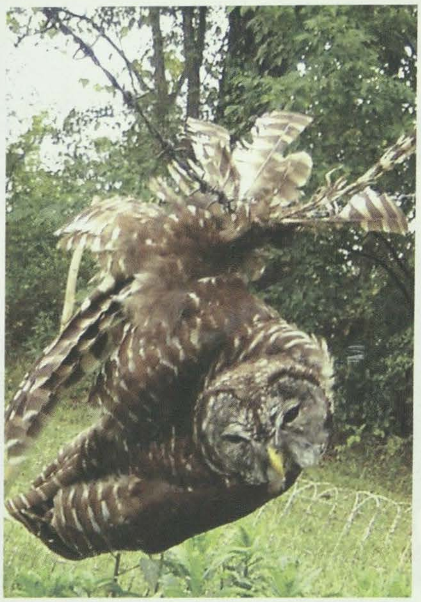
There is certain criterion which must be met before a boat is declared derelict. An investigation is necessary to make sure a boat meets the criteria and to determine if the owner is unable or unwilling to remove it.

"A derelict vessel can be floating or sunken," Dipre said. "And a vessel doesn't have to be pretty - it just has to be legal. It is not a crime to have an unattractive boat on the waters of the state."

Once the FWC determines a vessel is derelict, a private contractor removes it from the water and it is destroyed and disposed of at a local, licensed landfill.

Derelict vessels can be reported by calling 888-404-3922. An FWC officer will be assigned to investigate and initiate a derelict vessel case file. **FW**

Good fences make good neighbors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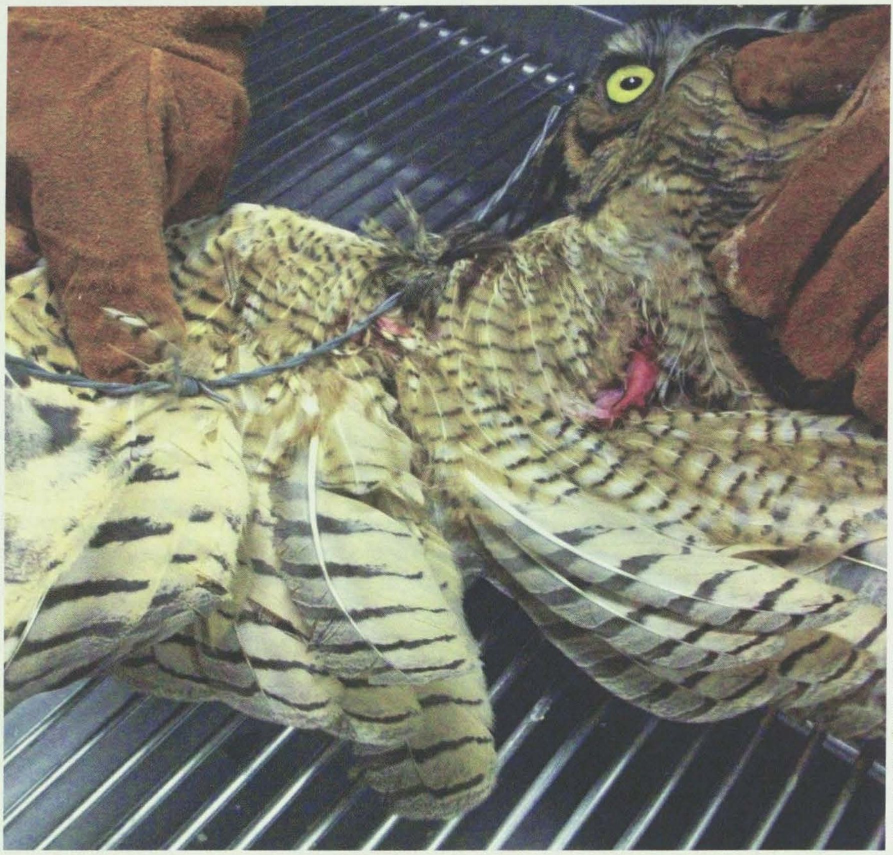
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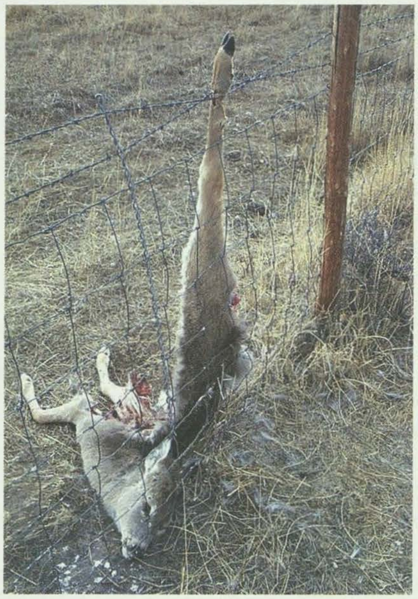
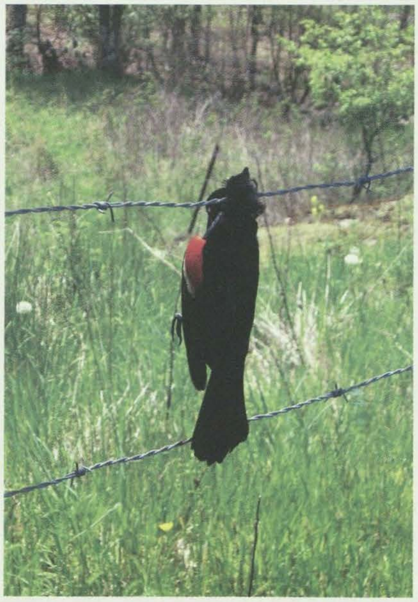

RANDY GAZDA, U.S. FISH & WILDLIFE SERVICE


BILL THOMPSON III/BIRDWATCHERSDIGEST.COM

barbed fences can injure or kill them

By Sandy Beck

Seeing deer, wild turkeys and owls sharing a pasture with livestock is one of the blessings of country living. But every year, large numbers of wild birds and animals are caught on out-dated barbed-wire fences. Such suffering is now preventable.

Above: *Staff at the St. Francis Wildlife Rehabilitation Center in Tallahassee remove barbed wire from a great horned owl's wing.* ***Left, top to bottom:*** *A barred owl was gravely injured when its wing was caught on barbed wire. After two months at a wildlife rehabilitation center, it was released; deer can suffer a terrible death if their legs get tangled in fences; a red-winged blackbird died after being caught on barbed wire.*

Long before we began carving up our state into tidy parcels, wildlife traveled freely, from the northern Red Hills to the southern River of Grass, in search of food, water and shelter.

In the early part of the past century, highway construction, the arrival of motorized tourists and a growing population made it necessary for stockowners to fence their pastures. In 1949, after a century of open-range cattle ranching, Florida made it official with the Fence Law. Barbed wire, invented in the 1800s to slice up western grasslands, became the norm across Florida, to keep livestock in and people out.

Today, fences – barbed wire and woven wire – outline a checkerboard of public and private lands; enclose ranches, farms, pastures and gardens; define property boundaries; and run for miles and miles along the interstates, turnpike and other roads that weave through our state.

It appears that the only creature that appreciates a barbed wire fence is the loggerhead shrike. In the absence of thorny bushes, this "butcherbird" uses a barb to restrain small prey.

But for some wild birds and animals, as well as horses, these fences present impenetrable and sometimes deadly barriers.

Wildlife vs. barbed wire

Shortly after dawn on Aug. 8 last year, the Florida Fish and Wildlife Conservation Commission received a call about an injured owl in Gadsden County, north of Tallahassee. The FWC officer called the St. Francis Wildlife Rehabilitation Center. When the officer and wildlife rehabilitator arrived, an elderly woman was holding the owl wrapped in a towel. Unfortunately, a barbed-wire fence was holding it, too.

They cut off an 18-inch section of wire, put the owl in a box and transported it to the wildlife hospital. St. Francis Wildlife staff removed the wire, cleaned the wound and administered antibiotics. Luckily, the wing was not fractured. That was one feisty bird. It gorged itself on rats and chicks and healed quickly.

Six days later, just before sunset, they drove the owl back home. Without hesitation, it took flight and headed straight for the tallest live oak, this time, steering clear of the fence.

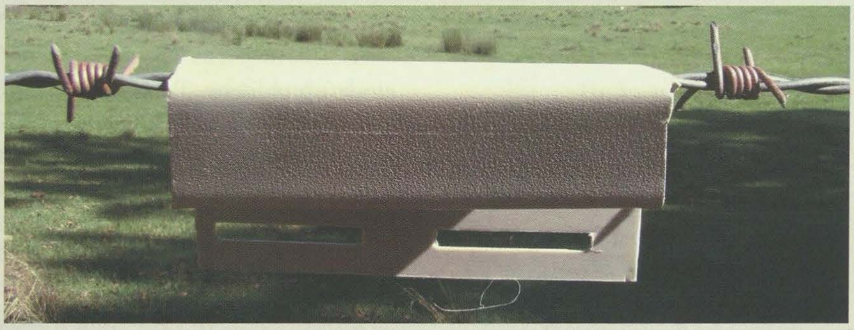
Animals who wrestle with barbed wire fences usually aren't as lucky as this great horned owl.

What kinds of fence cause problems for wildlife?

Recently, researchers at Utah State University completed a study of wildlife mortality along more than 600 miles of fences. They found:

- Woven-wire fence topped with barbed wire was the most lethal fence type. Deer and other animals that try to jump over this type of fence are most likely to tangle a back leg between the top barbed wire and the stiff woven wire or between two top wires that are loose or too close together.

Remedies for existing barbed-wire fences


SANDY BECK

High visibility helps wildlife negotiate fences. Cut durable and lightweight fence markers from strips of vinyl siding trim. The trim strip has a lip that easily hooks onto fence wires.

The best choice is for barbed wire not to be used at all, but if that is not an option, simple modifications to existing barbed wire fences can reduce wildlife injuries and deaths.

- Adjust the height of the top wire so that it is no more than 40 to 42 inches high. Replace the top one or two strands and the bottom strand with smooth wire or a wood rail. Leave 12 inches between the top two wires and at least 16 inches, preferably 18 inches, between the bottom and the ground.
- Make barbed wire more visible by adding small sections of white PVC pipe, surveyors tape, plastic flags or metal tags – anything that shimmies in the wind; white is best.
- The Sutton Avian Research Center in Oklahoma, has a technique that uses white, vinyl siding 'undersill' or trim strips, available at home improvement stores. They cut the strips into small pieces and hook them onto the barbed wire. It's lightweight, durable, visible and inexpensive. Audubon volunteers helped one Oklahoma rancher mark one mile of barbed wire in one weekend. Details are at: www.suttoncenter.org/fence_marking.html.
- Conduct daily, early morning inspections of fences.
- Repair loose wires or fallen fences, and remove unneeded fences. Some recycling centers will take old wire.
- Enlist volunteer groups – such as local sportsman's groups, school groups, scout troops, 4-H, Audubon and Sierra Club – to help with fence projects that help wildlife.

LINDA HUMPHREY

When its wing healed, the great horned owl was returned to the farm where he was found. Without hesitation, he took flight, this time, steering clear of the barbed wire fence.

- Seventy percent of all mortalities were on barbed wire fences higher than 40 inches.
- Woven wire fence that reaches all the way to the ground can orphan a fawn that is unable to follow its mother to the other side.
- Barbed wire placed too close to the ground can snare a fawn, opossum, otter or other small animal and stop it dead in its tracks.

A twisted fate

A bird in flight is likely scanning the distance, not focusing on close-up objects. Trees are obvious obstacles, but thin strands of a dark barbed-wire fence are not. Nocturnal birds and animals are the most frequent victims.

Owls fly low above the ground, using their sharp hearing to locate rodents hiding in dried leaves or grass. Great horned owls, which hunt in open fields, are impaled on barbed wire more often than other species.

A 1990 paper published in the Wilson Bulletin, a respected ornithological journal, documents more than 50 bird species, four bat species and one flying squirrel found entangled in barbed wire.

Michael L. Avery, project leader with the USDA/APHIS, National Wildlife Research Center's Florida Field Station, wrote in an e-mail, "Injury and death to birds from barbed wire has a long history. At least one whooping crane has been killed in this manner."

Most entanglements go unreported or unnoticed because animals usually die either on the fence or later from injuries or infections or become meals for predators. However, wildlife rehabilitation centers still rescue thousands of wild birds and animals each year that are impaled on or tangled in barbed wire.

In the past five years, Diana Flynt at the Audubon Center for Birds of Prey in Maitland, treated 12 raptors injured by barbed wire, mostly great horned owls and barred owls, but an osprey, a red-shouldered hawk and a Cooper's hawk sustained similar injuries. Only four of those birds could be saved.

When you need to exclude wildlife to prevent property or crop damage

- **Bears:** MyFWC.com/docs/WildlifeHabitats/Electric_Fence.pdf. MyFWC.com/CONSERVATION/ConservationYou_Living_w_Wildlife_bears.htm.
- **Coyotes:** Woven or welded wire fences at least five feet high; mesh sizes 4 by 6 inches or smaller; an outward overhang of fence wire. Electrifying the fence is an added deterrent. MyFWC.com/WildlifeHabitats/SpeciesInfo_Coyote.htm.
- **Deer:** MyFWC.com/WildlifeHabitats/SpeciesInfo_Deer.htm.
- **Other species:** MyFWC.com/WildlifeHabitats/SpeciesInfo_index.htm.

David Wrede in Sebring wrote in an e-mail, “In more than 24 years, our center has rescued many owls, deer, great blue herons, sandhill cranes, raccoons, foxes and some small birds from barbed wire fences.”

Anita de Villegas, a rehabilitator in Weirsdale in Marion County also wrote, “In the last seven weeks, I received three barred owls, one great horned owl and a juvenile sandhill crane that were caught in barbed wire.”

Leslie Straub at the Florida Wildlife Care Center in Gainesville also sees fawns, great horned and barred owls, sandhill cranes and otters impaled on barbed wire.

“We’ve also gotten deer that have that had their rear legs caught in old barbed wire at the edge of Paynes Prairie Preserve State Park.” Straub explained while they might dislocate a hip, it’s the stressful, nightlong struggle that most often kills them.

The times are a changin’

Many use barbed wire simply because of tradition, because their grandfather and father used it.

Gramlings Feed & Seed in Tallahassee, a family-owned and operated business since 1915, carries a huge assortment of fencing. Store manager Wayne DeMent said, “These days, we sell one roll of barbed wire every five years. We don’t recommend it anymore. Deer run full-tilt into it and get torn up. What people buy today is welded wire, woven wire or field fence. Barbed wire is suitable for only one thing: keeping people out.

A property owner is also liable for injuries sustained by people or horses from barbed wire. The Florida courts ruled on the side of a trespassing horseback rider that ran into barbed wire fence after dark.

Harmony is a new “green” community in Florida that promotes respect for all life and the land that sustains it.” The covenants, codes and restrictions, which were reviewed and partially written by Dr. Mark Hostetler, University of Florida Wildlife Extension agent, specifically prohibits the use of barbed wire.

Greg Kaufmann with the Florida Department of Environmental Protection’s Bureau of Design and Recreation said, “Every type of fence has an inherent risk. Some pose more risk for some wildlife. It’s a kind of balancing act between restricting access to some resources and wildlife.”

Wherever possible, DEP uses the newer woven wire in state parks and patrols its fence lines regularly.

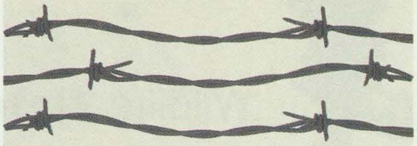
Jim Mills, in the Florida Department of Transportation’s Design Criteria and Standards Office explained the DOT maintains fence along the Florida Turnpike and other major roads to limit access to private land. They also want to ensure that people get on and off these roads only at interchanges.

DOT usually uses either standard chain link or 5-foot-high woven wire fence with two strands of barbed wire on top.

But Mills added, “If we have a standard that is causing an environmental problem, and we can find an economical solution, we will look at making changes.”

These problems are preventable. Hazardous fences can be replaced by more wildlife-friendly fencing, or simple modifications can at least reduce wildlife injuries and deaths.

Hopefully, with the many alternatives to conventional barbed wire, and with environmental organizations, universities and government agencies providing public education and leadership, these fences, so lethal to wildlife, will become a distant, sad memory. FW



Wildlife-friendly alternatives to barbed wire

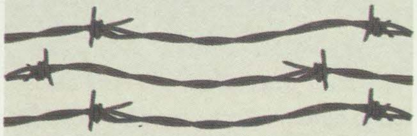
The best fences are very visible and enable wildlife to easily jump over or slip under the wires or rails, with no barbs to impale birds and animals and a design that minimizes tangling.

The University of Florida, Institute of Food and Agricultural Sciences has information on “high-tensile wire fencing” which was developed in New Zealand several years ago and is now being used in Florida. It is easier to handle than barbed wire or woven wire, has no barbs to injure animals, and is low-maintenance and less expensive than barbed wire. Details are at: edis.ifas.ufl.edu/AE017.

North Florida Animal Hospital veterinarian Dr. George Simmons has sutured up many horses that ran into barbed wire. While Simmons concedes “any fence is going to be tough on wildlife,” he recommends a fence topped with a wood rail rather than wire. He’s often seen wild turkeys fly up to such a fence, rest on top, look around, then fly off unscathed. The wood top is also kinder to owls, deer and other wildlife.

The ideal wildlife-friendly livestock fence has:

- A top wire or rail preferably no more than 40 to 42 inches above the ground.
- At least 12 inches between the top two wires, to prevent animals jumping the fence from catching a foot between the two.
- At least 16 inches, preferably 18 inches, between the ground and the bottom wire or rail.
- Wood rail or smooth wire for the top and bottom.



Wildlife **Watch**

WILLIAM J. WEBER

ROBERT T. ZAPPALORTI

WILLIAM J. WEBER

Top to bottom: *Buck deer with antlers in velvet; young alligator eating a green snake; wild pig with piglets.*

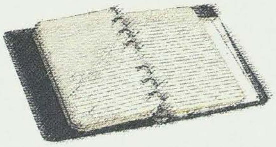
July

- Swallow-tailed and Mississippi kites, purple martins and tree swallows gather to migrate south for the winter.
- Bear breeding season begins.
- Scrub morning glory and butterfly weed bloom.
- Buck deer in velvet may occasionally be seen.
- Sea oats flower on Atlantic beaches.
- Second litters of gray squirrels are born.
- Young crocodiles hatch in South Florida.
- Baby raccoons, foxes, armadillos and bobcats leave their mothers.
- Eastern narrowmouth toads "waaa" like baying sheep after heavy rains.
- Leatherback, loggerhead and green sea turtles continue to crawl ashore to lay eggs.
- Magnificent frigatebirds fly overhead in South Florida.

August

- Short-tailed shrews begin the year's second round of breeding.
- Gopher tortoises hatch.
- Shorebirds and blue-winged teal arrive to winter on Florida wetlands and lakes.
- Indigo snakes and other snake eggs hatch.
- Yellow warbler migration begins.
- Alligators hatch from now to mid-September.
- Deer breed in southern Florida.
- Coral along the coast spawn in conjunction with the full moon.
- Bass forage in shallows in late evenings, early mornings and at night.
- Loggerhead and green sea turtles continue to nest.
- Leatherback turtles depart for their oceanic foraging grounds.
- Wild hog breeding season begins.

Event dates and locations subject to change. Contact sponsors for up-to-date information. Visit MyFWC.com for fishing and hunting seasons, dates and deadlines.



Calendar

August

Aug. 1: St. Joseph Bay Scallop Festival. Shipyard Cove; Port St. Joe; 850-227-1223; www.gulfchamber.org.

Aug. 1: Junior Ranger Academy. Blue Spring State Park; Orange City; 386-775-3663; www.floridastateparks.org.

Aug. 1: A Day in Florida History of DeLeon Springs. DeLeon Springs State Park; DeLeon; 386-985-4212; www.floridastateparks.org.

Aug. 4-6: Kids' Fishing Days. West Palm Beach; 850-488-6058; www.MyFWC.com.

Aug. 6-9: Saltwater Showdown. Pompano Beach; 954.725.4010; www.bluewatermovements.com.

Aug. 7: Big Pine Night Walk. Chinsegut Nature Center; Brooksville; 352-754-6722; MyFWC.com/Chinsegut.

Aug. 7-9: Key West Lobsterfest. Key West; 305-294-2000; www.fla-keys.com.

Aug. 7-10: Hot Summer Boat Show. Orlando Convention Center; Orlando; 407-298-1167; www.boatshowflorida.com.

Aug. 8: National Marina Day. Punta Gorda; 941-575-3000; www.fishville.com.

Aug. 12-16: The Grand Lagoon National Saltwater Fishing Tournament. Panama City Beach; 850-522-0955; www.grandlagoonnational.com.

Aug. 14: Summer Safari Night. Lowry Park Zoo; Tampa; 813-935-8552; www.lowryparkzoo.com.

Aug. 15: Introductory Archery Workshop. Chinsegut Nature Center; Brooksville; 352-754-6722; MyFWC.com/Chinsegut.

Aug. 15: STA 5 Bird Watching Tour. Clewiston; 863-674-0695; www.MyFWC.com.

Aug. 28-30: Islamorada Swordfish Tournament. Islamorada; 305-282-1006; www.fla-keys.com.

Aug. 29: Kingfish Tournament. Mexico Beach; www.mbara.org.

September

Sept. 5: Junior Ranger Academy. Blue Spring State Park; Orange City; 386-775-3663; www.floridastateparks.org.

Sept. 9-11: FWC Commission Meeting. Howey-in-the-Hills; MyFWC.com.

Sept. 11: Incredible Edibles. Chinsegut Nature Center; Brooksville; 352-754-6722; MyFWC.com/Chinsegut.

Sept. 11-12: Taylor Creek Inshore Tournament. Anchor's Aweigh Marina; Ft. Pierce; 772-633-4349; www.myflfa.com.

Sept. 11-13: Tampa Boat Show. Tampa Convention Center; Tampa; 954-441-3220; marinesource.com.

Sept. 12: Kids' Fishing Clinic. Martin County; 850-488-6058; www.MyFWC.com.

Sept. 12-13: Florida Sportsman Fishing & Boat Show. South Florida Fair Grounds; West Palm Beach; www.floridasportsman.com.

Sept. 18-20: Ladies Let's Go Fishing. Islamorada; 954-475-9068; www.fla-keys.com.

Sept. 19: STA 5 Bird Watching Tour. Clewiston; 863-674-0695; www.MyFWC.com.

Sept. 19: Chinsegut Butterfly Workshop. Chinsegut Nature Center; Brooksville; 352-754-6722; MyFWC.com/Chinsegut.

Sept. 19: International Coastal Clean-up Day. Delnor-Wiggins Pass State Park; Naples; 239-597-6196; www.floridastateparks.org.

Sept. 19: Get Involved! Hillsborough River State Park; Thonotosassa; 813-987-6771; www.floridastateparks.org.

Sept. 23-27: Florida Keys Birding and Wildlife Festival. Curry Hammock State Park; Marathon; 305-289-2690; www.floridastateparks.org.

Sept. 24-27: Marathon International Bonefish Tournament. Marathon; 305-743-9424; www.fla-keys.com.

Sept. 25: Florida Catfish Classic Festival. Lake Alice Park; Wewahitchka; 850-639-5816; www.floridacatfishclassic.com.

Sept. 25: Gifts of Generosity Charity Inshore Tournament. Vero Beach; 772-569-6700; www.myflfa.com.

Sept. 25: National Estuaries Day. The Apalachicola Reserve; Apalachicola; 850-653-9419; www.apalachicolabay.org.

Sept. 25-26: Florida Catfish Classic Tournament. Gaskin Park Landing; Wewahitchka; 850-814-3180; www.floridacatfishclassic.com.

Sept. 25-27: Pensacola Seafood Festival. Seville Square and Bartram Park; Pensacola; 850-433-6512; www.fiestaoffiveflags.org.

Sept. 26: Marion County Springs Festival. Rainbow Springs State Park; Dunnellon; 352-465-8555; www.floridacatfishclassic.com.

Sept. 26-27: Florida Sportsman Fishing & Boat Show. Florida State Fairgrounds, Tampa; 772-219-7400; www.floridasportsman.com.

Sept. 29: Big Pine Fall Wildflower and Butterfly Walk. Chinsegut Nature Center; Brooksville; 352-754-6722; MyFWC.com/Chinsegut.

Fishin' **Follies**

They are singing our song

By Andy Sabol ~ Illustration by John Papesca

"Boy, this is perfect." I could tell Bill was smiling as he whispered to me.

"Yes, perfect." I thought.

There I was, standing in total darkness, in black, oozy muck up to my knees, wearing the most stupid outfit of my life.

Bill has talked me into going to the Little River Ranch near Dade City to gig some of the 50 million or so frogs living in a small swampy area off the Little Withlacochee River that ran through the ranch.

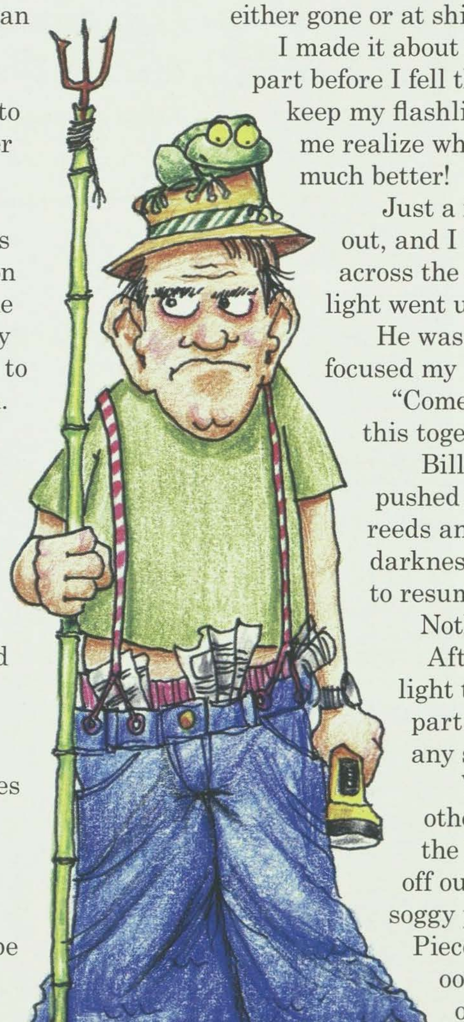
We each had made a frog gig by fastening a small, three-point frog gig to a bamboo pole about 8 feet long. Neither of us had headlamps, so we figured we could just use regular flashlights (big mistake!) We decided to wear old tennis shoes and use duct-tape to keep them on our feet while wading in the gunk of the swamp. And, since the area was heavily used by snakes of all types, we decided to use Bill's idea of snake-proof protection.

We went to a local thrift store in Tampa and each bought a pair of jeans about four sizes too large. When we got to the swamp we changed into these "monster" jeans and then proceeded to crumple newspapers and stuff them down into the pant-legs. Bill figured that if a snake decided to bite into all those newspapers, no damage would be done to us.

It sounded reasonable at the time.

After slathering on about two bottles of mosquito dope each, we waddled into the swamp. Bill waded along the shoreline to the left while I headed out to the right. The swampy area was about the size of a football field or maybe just a little larger. The croaking was coming from the far end of the swamp, naturally. The frogs were down where most of the weeds and cattails were. The bottom of the swamp was about a foot of black goop over a fairly hard bottom. There was also about a foot or so of water on top of the goop.

About ten minutes after we waded about knee deep into the swamp, we realized our "snake-proofing" was not such a good idea. As the water soaked through and up into our jeans, the newspapers got soggy pretty fast and started to sink lower and lower on our legs. It wasn't too long until they started oozing out the bottom of our jeans. In fact, by the time I got about half-way around the swamp, all of my "snake-protection" was either gone or at shin-level and below.



I made it about two-thirds of the way to the froggy part before I fell the first time. Luckily, I was able to keep my flashlight out of the water, but it made me realize why headlamps would have been sooo much better!

Just a few minutes later Bill's light went out, and I heard his expletives exploding across the swamp. He had also fallen, but his light went under the water and then out.

He was about 50 or so feet from me, so I focused my light over his way.

"Come on over to me, Bill, and we will do this together," I called.

Bill sloshed his way to me, and we pushed through the goop towards the reeds and the frogs. We waited in the darkness, not making a sound, for the frogs to resume their croaking.

Nothing.

After a good 15 minutes, we used my light to scan every inch of the "froggy" part of the swamp. Nothing, not even any snakes.

We slogged our way back to the other end of the swamp, climbed up the little hill to the truck and stripped off our frog-hunting jeans with the soggy paper-lined legs. What a mess. Pieces of soggy newspapers and black, oozy, goop-covered jeans (inside and out), shoes and shirts. And still no frogs.

As we climbed into the truck, the frog chorus started.

Bill laughed, "They are singing our song." FW

Send us your best shot!

2009 Florida Wildlife Photo Contest

Florida Wildlife Magazine is pleased to announce its 2009 photo contest. Winning entries will be published in the January/February 2010 issue of *Florida Wildlife* and posted on the magazine's Web site.

LIZ SPARKS

Categories

- **Bird watching.** Birds living in or visiting Florida.
- **Living wild.** Any wild animals, other than birds, pictured in a Florida habitat. This includes mammals, reptiles, amphibians, insects and fish.
- **Up close.** A close-up or macro view of nature. Plants, natural materials or animals may be pictured.
- **Natural scenes.** Where Florida's animals live.

Prizes

Grand prize: $300 awarded for best overall photograph.

First place winners in each category will be awarded $125.

Second prize winners will receive $100.

Third place winners will receive $75.

Awards of Merit may be given. Winners will receive $50.

Rules:

- Wildlife pictured must be live – pictures of mounted wildlife are not eligible. Images of domestic animals (dogs, cats, cattle, etc.) are not eligible.
- Images must be taken within the state of Florida.
- All entries must be received by 5 p.m. Friday, Aug. 7, 2009. Entries received after this date will be automatically disqualified and returned to the entrant.
- Employees of the FWC and their immediate families are not eligible.
- Photographs previously submitted to or published by *Florida Wildlife* Magazine or any other FWC publications are not eligible.
- One-time publication rights to each photograph must be available.
- All entries will be judged by *Florida Wildlife* Magazine staff and other employees of the FWC. The decisions of the judges are final.
- The judges reserve the right to decide whether entries in a category merit three awards and to decide under which category a picture will be judged. Three prizes may not be awarded in all categories.
- Winning entries posted on the Web site may have watermarks added.

Entry Procedures:

- No more than 20 entries will be accepted from a single entrant.
- If the photographs are to be returned to the photographer, a self-addressed mailer with sufficient postage for return of materials via U.S. mail must be included with entry.
- Entries must contain only photo contest material. No other correspondence should be included.
- A single, legible, letter size (8 1/2" x 11") log must accompany each entry. A pdf log may be downloaded from the magazine's Web site (www.FloridaWildlifeMagazine.com) but is not required. The log sheet must contain the following information:
  - ***Name of photographer***
  - ***Mailing address***
  - ***Telephone number, with area code***
  - ***E-mail address***
  - ***Category***
  - ***Subject of photo***
  - ***Where photo was taken***
  - ***When photo was taken***

Mail entries to:
Florida Wildlife Photo Contest
620 South Meridian Street,
Tallahassee, FL 32399-1600

- Entries may be submitted as:

  Prints. Approximately 8"x10" and not framed or matted. Image must be as large as paper size will allow. 5"x7" or smaller will not judged.

  Digital images. Digital images may be submitted on a CD. For tracking purposes, a print or laser copy of each digital image should be submitted. This may be a letter-size contact sheet(s) up to full-page printouts. Images on CD will be judged, not the printout.
- The photographer's name and address must appear and be legible on the back of each print or on the CD. The photographer's name or other information may not appear on the front of any print.
- Manipulation of images should be kept at a minimum (such as saturation, contrast, dodging, eliminating dust spots, etc.). Images in which content has been eliminated, added, rearranged, etc. will not be accepted.
- Entries will be returned via U.S. mail beginning in January 2010.
- Entrant's information (address, phone, e-mail) will not be shared or used by the FWC for any reason other than communicating with entrant regarding this contest.

Where do you answer the call of the wild?

Photo: Gus Holzer

FWC law enforcement is not a typical 9-to-5 job. Officers work day and night. Their 'patrol' vehicle may be an airboat or swamp buggy, and their 'beat' may be a swamp, forest or as far as 200 miles offshore.

Answer the call of the wild. If you want to help protect Florida's natural resources and people – become an FWC law enforcement officer.

Call (866) FWC-HIRE (392-4473).

Florida Fish and Wildlife Conservation Commission
Division of Law Enforcement

MyFWC.com

Patrol, Protect, Preserve

Program activities and employment practices of the Commission shall be non-discriminatory. No person may be excluded from participation, admission, access, or denied the benefit of any program or employment on grounds of race, age, color, sex, religion, national origin, political opinions, marital status or disability.